CD EDITION HOME COMPUTING MADE EASY

PC home

JUNE 1994 ISSUE 21 £4.95 Holland: Hfl 21.95

NEW AGE PIRACY

Copying software is easy... and illegal – are you guilty?

DTP on a budget

PagePlus 3.0 goes head to head with PageMaker Classic

Inkjet v laser

Which is best for your home? We put 8 printers to the test

Over 600Mb of QUALITY software – full details page 16

GAMESarena

- Pacific Strike
- Myst
- Fleet Defender
- Sam & Max CD
- Detroit

46 games reviewed
including the best on CD-Rom

COVER CD MISSING? THEN ASK YOUR NEWSAGENT

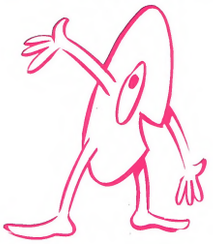
EUROPRESS PUBLICATIONS
9 771351 537026 06>

PC HOME JUNE 1994 ISSUE 21

romedia

INTERACTIVE SERVICES

CD ROM MULTIMEDIA SPECIALISTS



Unit 44 • Rushington Business Park • Chapel Lane • Totton • Hampshire • SO4 4LA

TEL: 0703 871177 Fax: 0703 871155

MICROSOFT

Encarta 1994 .....£79.00

Microsoft Music

Multimedia Mozart £38.00
Multimedia Beethoven £38.00
Multimedia Stravinsky £38.00
Multimedia Schubert £38.00
Musical Instruments £38.00

Microsoft Reference

Dinosaurs £38.00
Art Gallery £38.00
Cinemania £38.00
Golf £38.00

Pack Prices

Complete Collection £385.00
Any 3 titles
(excluding Encarta).....£105.10
Any 3 titles
(including Encarta) £147.00

EDUCATION

Undersea Adventure - *Complete a journey to the bottom of the sea* £49.00
3D Body Adventure - *Bring anatomy to life, learning program* £49.99
3D Dinosaur Adventure - *Put on the 3D glasses and you'll wonder whether there extinct!*.....£49.99
UFO - *The most complete guide to close encounters* £39.00
Groliers 1994 Encyclopaedia - *21 Volumes from this marvel of knowledge* £89.00

SHAREWARE

- Look for the Star Package for quality and price
- RomWare "7 Disc Bundle" Covering all Bases:- Animation, Windows, Tools and Utilities, Education, Games, Graphics and Sounds.

4.2 Gigabytes £49.99

Chestnut Brand:-

Our Solar System. NASA eat your heart out.....£10.00
Techno Tools. Everything for everyone £10.00
Computer Reference Library. Tutorials, Guides, Languages etc. £10.00
Death Star Arcade Battles. Arcade Action.....£10.00
Shareware Overload Trio 1.5 Gigabytes £30.00
Too Many Typefonts.....£10.00
Windoware £10.00

- Romedia Special:- Chestnut 9 Disc Bundle:-.....£75.00
- Shareware Extravaganza - 25,000 Programs. Do you need more?£39.00

So Much Shareware Two.....£18.00
Hot Stuff II.....£10.00
CICA for Windows - *660Mb of the most up to date shareware* £12.00
Giga Games.....£14.00
Bibles and Religions £15.00
Gold Collection 1993 .....£10.00

- Walk Throughs and Fly-Bys .£20.00

ENTERTAINMENT

Megarace - *The futuristic racecar game* £30.00
Gabriel Night - *The Occult adventure game* £29.00
Midnight Movie Madness -*60s/70s Drive in Movie Guide*.....£32.00

ENTERTAINMENT

Ultima VIII Pagan - *Adventure Game*.....£41.00
The Complete Ultima Collection £41.00
Myst - *Transformed for the PC, the best Mac game ever.* £35.00
TFX - *Superb flight sim* £35.00
Elite II -*Space age quest* £26.00
Comanche - *Helicopter flight sim*£32.00
Journeyman Project - *Photo Realistic Adventure Game*.....£35.00
Dragonsphere -*Adventure Game*.£25.00
Microcosm - *Journey through the body* £32.00
Video gambling - *Gambling Games Galore* £23.00
Rebel Assault - *Star Wars Shoot em Up*.....£29.00
Day of the Tentacle - *Cartoon Hilarity*.....£29.00
Lands of Lore - *Virgins latest adventure game* £35.00

ROMEDIA NETWORK

Toshiba 340S Tower

Toshiba 4 stack CD ROM drive tower for the advanced Network, with multiple read capacity. (7 & 8 stack also available)£1439.00

Optinet CD Networking Operating System (1-8 user)

CD Networking operating system for 1-8 users. Supports Novell, Microsoft and any other Netbios LAN. £418.00

Corel SCSI Network Manager

CD Networking operating system. Server software supported by Novell. £459.00

Corel SCSI version 2.0

For maximum performance and ease of use of your SCSI devices. £116.00

CHILDRENS

Busy Town - *Twelve interactive playgrounds to explore. (Age 3-7, meets guidelines laid down by National Education of young children)* £38.00
Lenny's Music Toons - *(3-10) Cartoon and music adventure*.....£38.00
Putt Putt goes to the moon - *Interactive learning game (3-10)*.....£00.00
Just Grandma and me - *Interactive Storybook (3-8)* £32.00
Arthur's Teacher Trouble - *Childrens storybook about a bear called Arthur (6-10)*£32.00
Mc Millans Childrens Dictionary - *Full Dictionary with pictures, sound spelling and games* £39.00
Tale of Peter Rabbit - *Animated picture book with sound* £19.95
Easops Fables - *Animated picture book with sound* £19.95
Beauty and the Beast - *Animated picture book with sound* £19.95

BUSINESS SOFTWARE

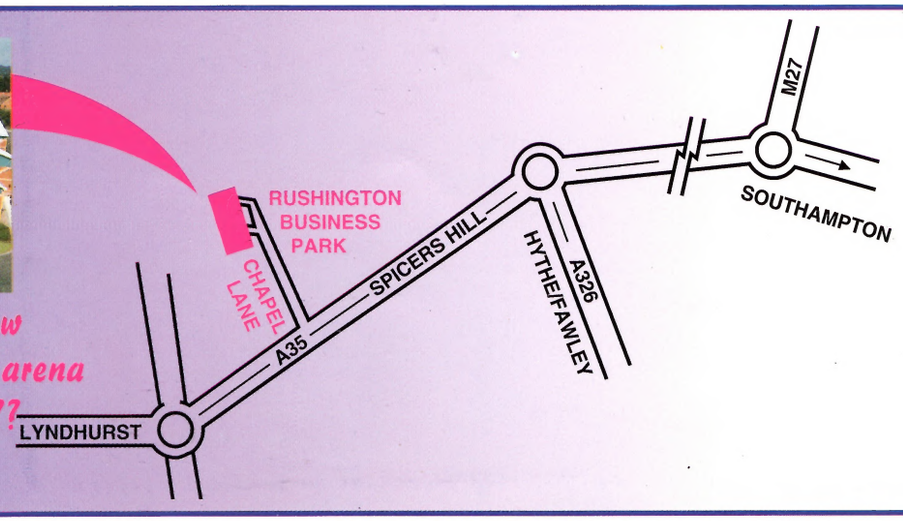
Lotus 1-2-3 for Windows.....£45.00
Micrografx Graphics Works £65.00
PFS for Windows - integrated Word Processor, Spreadsheet and Database) £49.00
Astound - Presentation Software £99.95

THE ROMEDIA GUARANTEE

No Grey Imports: These often appear as cheap options but offer little guarantee for the customer in the event of breakdowns. Consequently Romedia are authorised resellers for (amongst others) the following manufacturers equipment.

Advanced GRAVIS · Labtec · MEDIA VISION · ROMEO · NEC · CREATIVE CREATIVE LABS · HITACHI · TOSHIBA · Panasonic

Callers welcome to our new showroom/demonstration arena 9.00am till late – try us?? Open 6 days a week



romedia
INTERACTIVE SERVICES

CD ROM MULTIMEDIA SPECIALISTS

Unit 44 • Rushington Business Park • Chapel Lane • Totton • Hampshire • SO4 4LA

TEL: 0703 871177 Fax: 0703 871155

TOP SELLING DOUBLE SPEED CD ROM SOLUTIONS

TOSHIBA 4101

- Dual speed
- CD Rom XA standard
- 300 KBS transfer rate
- Tray loading (no caddy)
- SCSI 2 interface included

Special

Including SCSI interface card and cables
Internal £239.00
External £339.00

NEC MULTISPIN 3X

- Triple Speed
- 450 kps transfer rate
- 195 ms accesstime
- 256kB cache memory

Special:-

3xi (internal) £295.00
3xe (external) £358.00
SCSI Kit for above £64.00

PANASONIC 562B/563

- 320 Access Time
- Will connect to Soundblaster Pro or 16

Sound Cards Special

Internal £149.00
Internal *(inc full kit, cards, drivers etc)*£169.00
External *(inc full kit, cards, drivers etc)*£239.00

OTHER DRIVES (INC FULL KITS)

New Mitsumi FX001D
Internal £159.00
Philips 206 Internal £189.00

New TEAC CD 50 Internal £287.00
New NEC 3XP Triple Speed Portable £399.00

Toshiba 3401 internal inc SCSI interface £339.00
Toshiba 3401 external inc SCSI interface £448.99

Pioneer DRM 604X Quad speed, 6 discs etc.....£949.00
New Pioneer DRM 602X £499.00

ROMEDIA FIRST

Choose 3 of the following titles with any of the packages below for just £59.00 or individually for £25.00

20th Century Video Almanac
Animals of San Diego Zoo
Arthur Teacher Troubles
Battlechess
Bibles and Religions
Brittanica Family Choice
Carmen Sandiego
CD Game Pack 1
Chess Master 3000 MPC
Clipart Warehouse
Capital Hill
Dinosaur Adventure
Guinness 1993 MPC
Hot Stuff I + II
Just Grandma and Me
Jones in the Fast Lane
Kodak Photo CD Access
Kings Quest V
Loom
Lotus 123
MacMillans Childrens Dictionary
Mixed up Mother Goose
Monkey Island
Secret Weapons Luftwaffe
Sherlock Holmes Consulting Detective
Space Adventure
Space Quest IV
Space Shuttle
Stellar 7
Toolworks MPC Encycl
Return to Zork
US + World Atlas
US Atlas
World Atlas 4.0 MPC
Rebel Assault (NRW)
7th Guest
Dune
TFX
Quantum Gate
Critical Path
Iron Helix

Romedia's sole business is with multi media software & hardware.

Advice is free & simply ... a phone call away

SOUND AND VISION

New Version 3.7. **Gravis Ultrasound** 16 bit + new bonus software rated top soundcard £123.00
1MB Upgrade.....£49.00
Midi Kit.....£45.00
SCSI Interface £49.00

Reelmagic MPEG Video and Sound Card ****! The Future ... Now £349.00

Soundblaster Range

Soundblaster v2 .....£49.00
Soundblaster Pro £69.00
Soundblaster 16 .....£85.00

Soundblaster 16 MCD.....£125.00
Soundblaster 16 MCD ADSP ...£149.00
Soundblaster 16 SCSI-2.....£149.00
Soundblaster 16 SCSI-2 ADSP.£175.00
Soundblaster AWE 32.....£225.00
Midi Kit.....£21.23

POWER PLAY SPEAKERS

C.S.150's.....£17.00
S.S. 700's £23.00
S.S. 900's £49.00
Goodmans £65.00
Roland MA7.....£139.00
JPW £125.00
Pro-Digital.....£35.00

ROMEDIA SPECIAL ONE

Panasonic 562 (inc all cables + Labtec Speakers) + Soundblaster Pro ...£229.00
Soundblaster 16 .....add £40.00
Gravis Ultrasound .....add £30.00

ROMEDIA SPECIAL TWO

Toshiba 4101 Internal + speakers, kit and:- *(with SCSI interface* Soundblaster to only take up one slot).....£359.00
Gravis £369.00

ROMEDIA SPECIAL THREE

Toshiba 3401 Internal + Labtec 700 Speakers, kit etc and:-
Gravis Ultrasound *(with SCSI interface to only take up one slot)* £479.00
Soundblaster 16 ASP SCSI add ..£10.00
Soundblaster AWE 32.....£99.00

PORTABLE MULTIMEDIA

Portable Sound Plus (parallel)...£149.00
Portable Sound Plus (PCMCIA)£199.00
(SCSI interfaces for laptops with PCMCIA)
New Media PCMCIA SCSI £199.00
Adaptec Slim SCSI.....TBC
SCSI interface for parallel port
NEC Shuttle £99.00
Portable CD-Rom Drives
New NEC 3xp £339.00
NEC 38 portable.....£269.00
NEC Battery Pack £75.00

ROMEDIA TOP TEN

1. M/S Art Gallery £38.00
2. M/S Encarta £79.00
3. Groliers 1994 .....£79.00
4. JFK Assassination.....£35.00
5. TFX.....£35.00
6. Megarace.....£30.00
7. Microcosm £35.00
8. 3D Body Adventure £49.99
9. Commanche £35.00
10. Myst £30.00

THE VIDEO CONNECTION

Call Romedia The South Coast's New Rombo Premier Dealer*
New Media (Hi-Res) video capture card

- Real time capture
- True colour
- Support for accelerated video cards incl S3 and Cirrus
- Built in RGB T.V. Encoder only £279.00

T.V. Tuner: £119.95
Turn your PC into a T.V. media station
T.V. Encoder.....£119.95
Display VGA on a standard T.V. or record VGA back to a video tape

Romedia Station Limited Special:-

Media Pro Plus + T.V. Tuner....£299.00
WinTV - Capture, TV Tuner + teletext in one complete package £399.00

OTHER CARDS/ACCESSORIES AVAILABLE – CALL FOR DETAILS

A total satisfaction policy - combining competitive pricing levels with outstanding support for Macintosh; PC and Acorn/Archamides platforms

- Multiple order; educational and local government discount structure - call for details.
- Free technical advice and free on-site consultation/surveys.
- Rental facitities:- long and short term available
- Full installation, training and service available for new and existing CD Rom drives

- **ALL POSTAGE AND PACKING WITHIN THE UK IS FREE OF CHARGE**

Call for free catalogue of all hardware and titles as well as a monthly updated newsletter of new titles.

TERMS AND CONDITIONS

1. Faulty products will be refunded without quibble.
2. Credit card, cheque or money order required prior to goods dispatch.
3. VAT needs to be added to all quoted pricing.

VISA

Conte

COVER FEATURE

It's a steal

39 Piracy is a controversial issue in the computing industry, because so many people are involved. This month we examine what piracy is and what the industry is attempting to do about it. We also look at some new forms that are becoming increasingly present due to the diffusion of multimedia machines

Home future

29 Alex France takes a look at the next generation of Windows and tells us what we can expect to see when Microsoft finally unveil their much vaunted follow up, Chicago

REGULARS

Home truths

6 Warren Chrismas ponders the fastest growing sector of the PC market – edutainment

Newsline

21 How true are the rumours of an imminent new Windows interface ? Pearson take over Software Toolworks. Both these stories and more in our monthly news round-up

Quickies

31 Packard Bell's 486ES PC, Logitech's ScanMan PowerPage and the philately program StampMaster are just some of the products featured in this month's selection of short reviews

CD now

135 We spin the latest CD-Rom releases which include a trip into the 3-D Dinosaur Adventure, a look at Beethoven's fabulous 5th and the Viking guide to the opera

Shareware for leisure

155 Jim Hoggarth tries out the excellent art package Top Draw and Apogee's storming shoot-'em-up, Raptor

Write home

158 Warren Chrismas explores the deepest, darkest depths of the *PC HOME* postbag to bring you yet another selection of readers' writes

HOME OFFICE

Mean machines

61 Inkjet v laser, which is the best printer type for the home user? Wayne Williams looks at four mono models of each and tells you which he thinks offers the best value for money and why

Classic contest

70 PagePlus and PageMaker are competing for the first time in the same area of the DTP market. Matt Mc Grath takes to the ring to referee what promises to become an exciting confrontation

FEATURES

Family crisis?

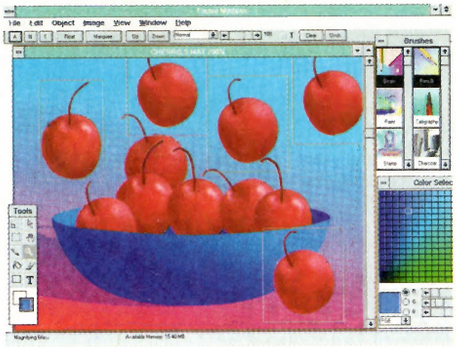
49 Trouble rocks the *PC HOME* family as their new multimedia PC starts behaving peculiarly – opening windows upon windows to the dulcet tones of Fred Flintstone – can Wayne Williams help?

Back to your roots

50 Brother's Keeper, one of the earliest genealogical programs, has generated some significant add-ons. James Taylor goes out on a limb of his family tree to look at the latest offerings

Hooray Henri

58 Want to paint like the impressionists? Roger Shezall takes a look at Fauve Software's Matisse, an art package which claims to allow you to do just that



COMPETITION

Strike Gold!

44 Your chance to win a Thunderseat – a revolutionary aid to gaming, and some great Kixx XL flight simulation software courtesy of US Gold

nts

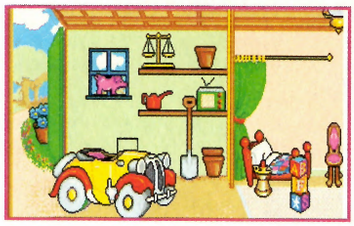
EDUCATION

Education matters

83 Our new educational specialist, Wilf Rees, explains the finer points of National Curriculum software and advises on which features we should look out for when buying programs for our children

Parental guidance

84 Wilf Rees takes a look at some of the best software available for the under 11-year-olds in this the first part of a three-month educational round up



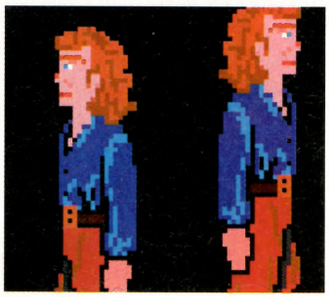
Positive steps

89 Wayne Williams peruses Mindscape's new suite of educational programs designed to follow the National Curriculum. But are they a step in the right direction?

HOME HELP

The high Cs

141 Wayne Russell continues his long running series on C programming with a look at how to go about breathing life into your graphic sprites



Programming for beginners

145 Mark Ballard takes up the challenge of guiding newcomers through the programming minefield. This month he goes back to basics

Systematic

146 Getting to know and understand your Config.Sys and Autoexec.Bat files is not an easy task. We show you what their various commands mean and how to get the best out of your system

Workshop

150 There's no hourly charge in Warren Chrismas's Workshop for the panicking PC owner, just more helpful hints, tips and advice to help you get your machine back on the road

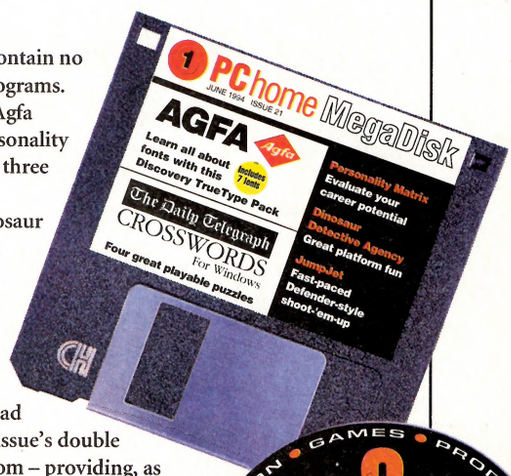
The price is right

All of the prices quoted in *PC HOME's* editorial pages are inclusive of VAT, and are correct at the time of going to press

MEGADISK and CD-ROM

Disk contents

9 Our twin MegaDisks contain no less than six quality programs. There's a great font package – Agfa Discovery True Type Pack, Personality Matrix – a career assessor, plus three great games, Daily Telegraph Crosswords for Windows, Dinosaur Detective Agency and JumpJet. Our bonus disk features a fully working trial version of Money 3.0 for Windows

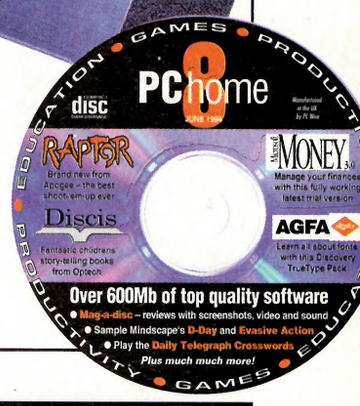


Disk tutorial

11 The *PC HOME* team lead you through both this issue's double MegaDisk and the Mega CD-Rom – providing, as ever, essential help and guidance

CD-Rom contents

16 Creating the best collection of games, demos and utilities to be found anywhere isn't an easy task but, against all the odds, we've done it yet again. Over 600Mb of data has been lovingly crammed on to this month's stunning Mega CD-Rom



GAMES arena

GAMES CONTENTS 92

FEATURES

Under development 95
Show business.....115
Hitting the mark 119
Design by degrees.....123
Retrospec 124
Arena quickies.....127

REVIEWS

Pacific Strike.....98
Sam & Max CD.....101
Fleet Defender.....102
Myst 104
Ravenloft 106
Carriers at War II.....108
Great Naval Battles II 108
Detroit.....110
F1 111
Merchant Prince 112

HOME TRUTHS

Edutainment software is one of the fastest growing areas of computing and Warren Chrismas knows next to nothing about it

USING computers for teaching subjects other than computing itself is still relatively new. Educational packages for the PC have, of course, been available since the 80s, but it's only now that they have become mainstream in the UK.

People have different theories as to why it is happening now, but a common reasoning is not only the huge growth in the home market, but the enhanced graphic and sound capabilities of modern PCs.

Kids love pretty animations and sounds. Five years ago, the PC wasn't capable of either. Now the potential of using an interactive machine to entertain and educate has become reality.

As if to reinforce this new interest, many companies from areas other than education have entered the field. From the games side we have the likes of Electronic Arts, Mindscape and Sierra, and from the business end we have Microsoft and WordPerfect. Word and Excel Junior here we come!

The problem for the developers is how much *edu* and how much *tainment* should be provided. The Humongous titles – distributed in the UK by Electronic Arts – such as Putt Putt joins the Parade and Fatty Bear's Birthday Surprise are held in high regard as good examples of the edutainment genre.

However, many educational reviewers are questioning whether these, and other similar packages, have any real educational worth. It has to be pointed out that no one argues that children enjoy playing with these titles – even most adults like them.

Another major concern is the fact that many edutainment packages are American. Some are Anglicised before reaching these shores, but this can often simply mean that spellings have be changed and the odd phrase altered.

Underneath, the Made in USA stamp can still often be detected. And hey, you don't want your kid to be the next Macaulay Culkin do you? Well, okay I guess the money would be nice.

A simple way for parents to avoid the trap of buying non-suitable software is to ensure that a package follows the National Curriculum guidelines.

This works to a point, but then you have to consider that National Curriculum software simply reinforces what kids learn at school. What about the stuff they don't learn there? Can computers offer more?

A helping hand

IT REALLY is a confusing market isn't it? So what better way to seek advice on education software than from a computing magazine? Ah, problem – many computer journalists are too young to have any real experience of raising children. Reviews by non-parents would be cheating.

So to guide you through the educational software minefield, *PC HOME* is pleased to introduce, to our team of writers, Wilf Rees – our new educational correspondent.

Wilf has many years of experience with computers, and has close links with many education software developers. He is also a deputy headmaster at a school in Northumberland, plus he has children of his own. If anyone knows educational software, Wilf certainly does.

Each issue, he'll be taking a close look at the education scene. This month, he kicks off by suggesting what parents should look for in software and explains the National Curriculum in a language which we can all understand.

On top of this, he also begins a three-part series looking at the best in edutainment software, starting with software suitable for ages 3 to 11.

If you have any questions that you would like to put to Wilf, write care of *PC HOME* at the usual address and we'll be happy to pass on your letters.

And there's more...

SO EDUCATION aside, what else have we got this issue? Well we've got our usual look at all the latest games releases including Origin's latest epic – Pacific Strike – as well as a report from Europe's largest computer entertainment show – the ECTS, previews and more. Why would anyone need a games-only magazine, eh?

Our cover feature takes a look at the old chestnut of software piracy. Is the situation getting worse or better? Andy Shaw investigates and looks at a new form of piracy which could have major implications in this age of multimedia.

We also take a look at eight of the best mono printers around – four inkjets and four lasers. Which offers the best value for money? Turn to page 61 to find out.

Due on the streets next month is the third version of Serif's popular DTP package PagePlus. This comes at a time shortly after rivals Aldus have released a budget version of PageMaker, called PageMaker Classic. We put the packages head to head.

There's also the usual news, hardware reviews, CD-Rom round-ups and well, a whole lot more really. Is there any other PC magazine so diverse in its content?

Before I go, I should mention that we've recently received our audited half-yearly sales figures and we are pleased to announce a massive growth in our readership. In fact, as far as we are aware, it's the largest growth for any PC magazine in the UK – leisure or otherwise.

We've also received lots of praise, including several articles in the national press, for our revolutionary step of offering a cover-mounted CD-Rom.

A big thank you to everyone who has supported us. The magazine is 21 this issue – 21 months that is. *PC HOME* has truly come of age. PCH

EDITORIAL

Editor **Warren Chrismas**
Art editor **Mark Nolan**
Games editor **Andrew Shaw**
News editor **Wayne Williams**
Staff writers **Peter Hawley**, **Darren Allan**
Editorial assistant **Justine Bowden**
Education correspondent **Wilf Rees**
Chief sub editor **Alan McLachlan**
Production manager **Sue Cantrill**
Group technical editor **Roland Waddilove**
Assistant technical editor **Adrian Worrall**

ADVERTISING

Assistant manager **Graham Mendham**
Senior sales executive **Fiona Carey**
Sales executive **Antony Allen**

MARKETING

Marketing director **Rita Keene**
Marketing manager **Janice Dockeray**

Telephone: 0625 878888
Fax: 0625 879966
Subscriptions: 051-357 2961
Disk enquiries: 0625 858084
Published by:
Europress Publications,
Europa House, Adlington Park,
Macclesfield SK10 4NP

PC HOME welcomes articles for publication. Material should be typed or computer-printed, and preferably double-spaced. Program listings should be accompanied by disk. Please enclose a stamped self-addressed envelope, otherwise the return of material cannot be guaranteed. Contributions can only be accepted for publication by Europress Publications Ltd on an all-rights basis.

© 1994 Europress Publications Ltd. No material may be produced in whole or part without written permission. While every care is taken, the publishers cannot be held legally responsible for any errors in articles, listings or advertisements.

News trade distribution: Comag – 0895 444055.

PC HOME standard subscriptions:

	UK	Europe/Eire	Overseas
13 issues HD edition	£45.50	£71.50	£84.50
Annual Direct Debit	£45.50		
13 issues CD edition	£58.50	£84.50	£97.50
Annual Direct Debit	£58.50		

Printed and bound by BPC Magazine (Carlisle) Ltd
A member of the British Printing Company Ltd

ABC 44,758 Jul - Dec 1993
Member of the Audited Bureau of Circulation

PC home

europress PUBLICATIONS

Chairman Derek Meakin
Publishing Director Robin Wilkinson
Financial Director Tim Roberts

RES CONSULTANCY

Advanced Computer Hardware And Software System Specialists

EST 1987

SPRING SPECIALS ON HIGH PERFORMANCE PERIPHERALS

ADD-ON CARDS

Std I/O 2S, 1P, 1G	£11.00
IDE I/O 2HD, 2FD, 2S, 1P, 1G	£12.95
IDE (VL) 2HD, 2FD, 2S, 1P, 1G	£27.00

DISPLAY CARDS

SVGA 512K	£29.00
Trident 8900DZ 1Mb	£45.00
S3 24 Bit Blaster 1Mb VRAM	£69.00
Cirus 1Mb VESA Accel	£69.00

RISC GRAPHIC ACCELERATORS

Bocca Vortek VESA	1Mb	£149.00
Bocca Vortek VESA	2Mb	£239.00

(300MIPS RISC uP)

CASES

High Quality New Design
3 Digit Display
1.2mm Steel, Zinc Coated

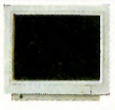
Desktop	200W PSU	£49.00
Mini-Tower	200W PSU	£49.00
Midi-Tower	200W PSU	£79.00
Full-Tower	230W PSU	£89.00

HARD DISK DRIVES

170Mb	£149.00
214Mb	£159.00
250Mb	£189.00
340Mb	£239.00
450Mb	£329.00
540Mb	£349.00
Mounting Kit	£5.00

Seagate, Western Digital, Samsung, IBM, Maxtor

MONITORS



MONITORS FEATURE FULL SCREEN DISPLAY AUTOSIZE AND AUTOSCAN TUV APPROVED MULTI - SYNC

14" SVGA (Low Radiation)	£159.00
14" SVGA (Low Radiation & NI)	£189.00
14" SVGA (Multi-Media LR)	£195.00
15" SVGA (Low Radiation & NI)	£259.00

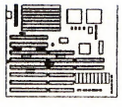
FST Monitors

17" SVGA LR/NI (FST)	£295.00
17" SVGA LR/NI (FST)	£559.00

MOTHERBOARDS

386SX-40MHz (No Cache)	£65.00
386DX-40MHz (128K Cache)	£95.00

ALL 486VL MKIII BOARDS FEATURE MULTI-LAYER. 8 SIMM SKT'S 8 SLOTS - 8 x 16 Bit (3XVL Bus) 2x8Bit, LATEST AMI UK BIOS. VERY HIGH QUALITY BOARD AND MANUAL.



486SX-25MHz (256K Cache)	£135.00
486SX-33MHz (256K Cache)	£159.00
486DX-33MHz (256K Cache)	£286.00
486DX2-50MHz (256K Cache)	£296.00
486DX-50MHz (256K Cache)	£382.00
486DX2-66MHz (256K Cache)	£379.00
Electronic Fan/Heatsink For DX50/DX266	£12.00

OTHER ITEMS

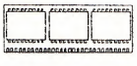
1.44Mb Floppy Drive	£28.00
1.2Mb Floppy Drive	£35.00
Floppy Mounting Kit	£5.00
UK Enhanced Keyboard	£17.00
Cherry Keyboard	£32.00
250Mb Tape Streamer + Free Tape	£129.00
Tapes For Streamers	£13.00
M/S Compatible Mouse	£9.00
M/S DOS V6.2 & Windows V3.1	£75.00
NE2000 Ethernet Card	£45.00
3 Metre Network Cable	£15.00
Future Domain TP1680 SCSI Kit	£119.00
Adaptec 1522 SCSI Kit	£139.00
Adaptec 1542C SCSI Kit	£195.00

MATHS CO-PROCESSORS

387SX-40MHz Maths Co-Pro	£55.00
387DX-40MHz Maths Co-Pro	£56.00

MEMORY

32 Pin Simms for IBM compatible machines

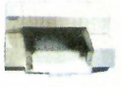


256K Simm Modules	£12.00
1Mb x 9 (70nS) 3-Chip	£33.00
1Mb x 9 (70nS) 9-Chip	£35.00
4Mb x 9 (70nS) 9-Chip	£129.00

PRINTERS

Ink Jet

HP 520 Deskjet Mono	£229.00
HP 560C Deskjet Colour	£429.00



Laser

HPIV L	£549.00
Brother HL6	£489.00
Printer Leads	£3.00

SOUND/MULTIMEDIA

Adlib + Speakers	£29.00
Sound Card (SB2 Comp)	£59.00
16 Bit Sound Card (Pro)	£79.00
WD 16 Bit DSP + Wavetable	£149.00
Toshiba 3401B (Drive Only)	£289.00
Scsi Controller (For Above)	£55.00
CD ROM Panasonic CR562B	£139.00
CR562B + Interface Kit	£159.00

CD Multimedia Package **£260.00**

Includes:
Panasonic 562B CD-ROM
16Bit Pro Sound Card
Cables and Software
Amplified Quality Speakers
2 CD Titles e.g.
Return To Zork, Sound Effects 300

Other titles and packages available please call

TEL: (0932) 852680
FAX: (0932) 830354

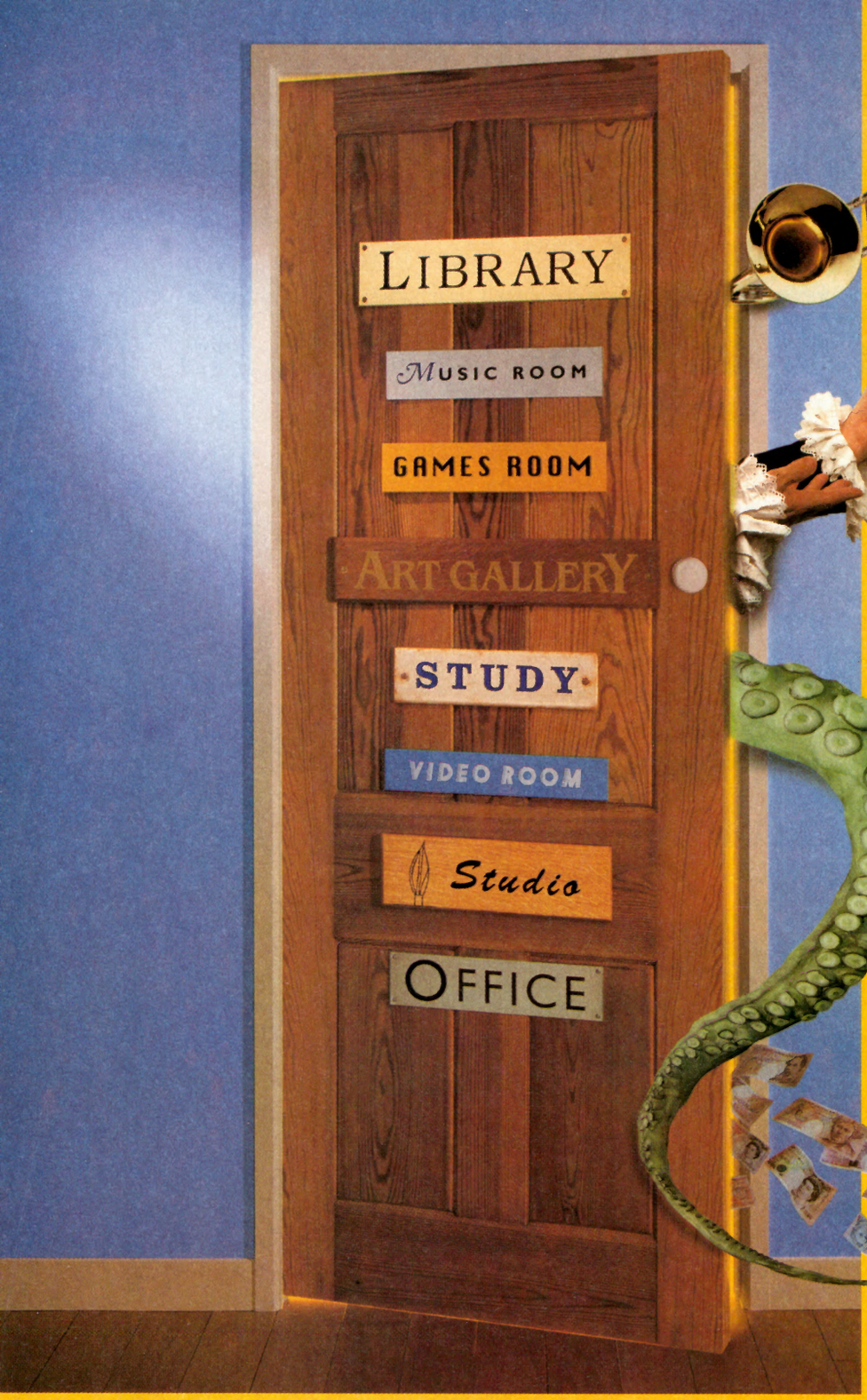
FREE ADVICE
TECHNICAL ASSISTANCE
FRIENDLY STAFF

Prices And Specifications Are Subject To Change Without Notice.

Our Best Service Always

PRICES EXCLUDE VAT AND DELIVERY. TERMS (C.W.O.) OR BY MAJOR CREDIT CARDS (1.5% VISA SURCHARGE). SWITCH CARDS ONLY AT COUNTER PLEASE. TRADE ENQUIRIES WELCOME. ALL SYSTEMS AND PARTS ARE FULLY GUARANTEED AND ARE SUPPORTED BY TECHNICAL ASSISTANCE

1 ONGAR PARADE, ADDLESTONE, SURREY. KT15 1JH



With Microsoft's leading range of Home software, you'll soon be going places – and all at the click of a button.

It'll transform your living room into an art gallery, a games room, or even a golf course. Inside, there's everything to entertain, excite and educate your whole family.

For example, Microsoft® Encarta™ creates a classroom that everyone will want to attend.

It's a CD-based encyclopaedia packed with 28 volumes of information – all dramatically brought to life with a multimedia mix of animation, sound and video.

Just as impressive is Cinemania®, the movie guide. With actual film clips, it allows you to "view as you review."

The entrance fee is remarkably good value. Prices for this ever-increasing range of titles start from only £20, and go up to £100* – making it easy to convert your living room into a much livelier room.

COMPAQ 0800-444044
GATEWAY 2000 0800-562000
IBM 0256-841818
Viglen 081-758 7000

And if you're looking to buy a PC, you'll now find Microsoft Home software pre-loaded onto hardware from the leading manufacturers.

So for a computer that's already brimming with ways to feed the mind and expand the imagination, call the numbers above.

Or for your nearest Microsoft Home software reseller, and a free colour brochure, call us on **(0272) 447742** (during office hours).

Microsoft Home software opens many doors.

Here's two ways to get into it.

Microsoft®
Making it easier

*Including VAT. Prices may vary depending upon your reseller. Microsoft and Cinemania are registered trademarks and Encarta is a trademark of the Microsoft Corporation.

HPCH1

MEGADISKS

The best in software for your home PC

MegaDisk.....11

WE'VE managed to squeeze five great software packages on this month's MegaDisk. First up is the Discovery TrueType Sampler. The package consists of the Discovery Sampler Font Guide to help you through plus five text fonts and two clip art fonts with keyboard maps for use with any Windows application.

Next up is a special version of the Daily Telegraph Crosswords for Windows which has been put together especially for *PC HOME*. It includes four fully playable crosswords – two quick and two cryptic. This should appeal to anyone interested in word games.

We also have Personality Matrix – a broad-based personality assessment tool, designed to extract essential information about a candidate's personality and provide detailed analyses of its results, including an assessment of their suitability for various types.

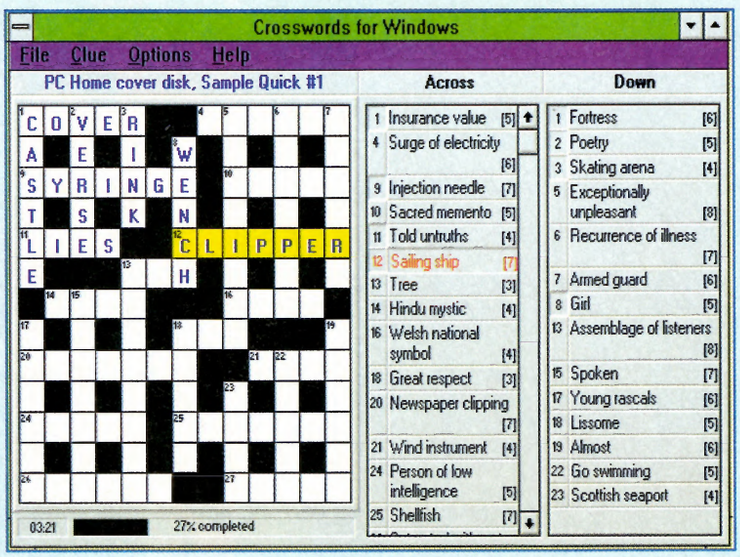
For gamers we have Dinosaur Detective Agency and JumpJet. The former is a highly playable platform romp for children of all ages, while JumpJet is a version of the arcade classic, Defender.

Bonus MegaDisk (UK only) 12

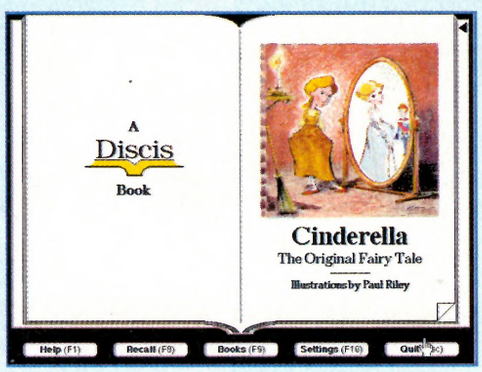
ON THE second MegaDisk we have a fully working trial version of Microsoft Money 3.0 for Windows. This package provides everything needed to take control of your finances quickly – including a complete set of tools that make it easy to manage your money, make sound financial decisions and plan for the future. Major new product features include investment management, financial planning Wizards and enhanced reporting.

Mega CD-Rom contents 16

TURN to here to find out what's on our Mega CD-Rom this month. As well as all the files found on our floppy MegaDisk, we've got Discis – a great selection of children's story-telling books, Raptor – a brilliant new shoot-'em-up from Apogee, Top Draw – the best shareware graphics program around and much, much more. Over 600Mb of quality software.



Spend a leisurly hour or two with the Daily Telegraph Crosswords for Windows



Discis: A really great selection of children's story-telling books

A guide to symbols used in the magazine

READING through the magazine you will occasionally come across some small CD-Symbols with letters on. These have been designed to inform you that there is something on the CD-Rom which relates to that particular article. Here's what they mean:

Files relating to the article can be found on this month's Mega CD-Rom

A product demo, either interactive or self running, is on the disc

A review including full motion video footage is on the CD-Rom

WHAT IF I NEED HELP?

TURN to page 14 for our complete help service to using the *PC HOME* MegaDisks.

If you are new to the magazine you will find an extremely basic guide to getting the MegaDisk programs to work.

Should you have any problems with the software please contact the official MegaDisk helpline, details of which are also on page 14.

You'll also find more detailed help on setting up your system to ensure you have enough resources to make the Mega CD-Rom run.

For the CD edition of the magazine, there are also instructions on how to get the disc up and running – see page 16.

EPSON *Stylus* 800 INKJET

SO GOOD, I TOOK MY OFFICE HOME.

Around £240* for this much quality? Epson makes laser-quality inkjet printers affordable for home or office. But it's not just the price that makes the Stylus 800 the best value inkjet. Running costs average just 1.5p per page – much less than most of the competition. The Epson piezo print head delivers better inking, for superb print quality on almost any paper. The ink cartridges are among the cheapest you can buy. The power supply and A4 paper feeder are built in, so you don't pay extra for essentials. The Stylus 800 runs with all major software. And, just to prove it really is as good as we say, we cover it with a full 2-year warranty. **To get your free information pack dial 100 and ask for FREEPHONE INKJET, or return the coupon below.**

TOO GOOD TO COST SO LITTLE.

EPSON *Stylus* 800 Around £240* Ex.VAT

*Average retail price (RRP £316 Ex.VAT)

• High-Speed Print: 180 cps, 12cpi LQ • Epson permanent piezo head print quality: 360x360dpi • 100-sheet A4 feeder built in • 4 scalable fonts • Epson ESC/P 2 control language • Low-cost replaceable ink cartridge • Microsoft® Windows™ driver supplied*

Please send my information pack including brochure, press reviews, free gift and The Inkjet Guide ☐ PCH JUN PC

Name ..... Title ..... Company .....

Address .....

..... Postcode ..... Telephone .....

Is your enquiry for private or business use? Yes ☐ No ☐ If for business use, how many PC's are currently on site? .....

Return to: Epson UK Limited, FREEPOST, Campus 100, Maylands Avenue, Hemel Hempstead, Herts, HP2 8BR (No stamp required)

CALL FREE! DIAL 100 AND ASK THE OPERATOR FOR FREEPHONE INKJET.

EPSON inkjet · BEST BUY WHICH COMPUTER · WHAT PC? BEST BUY

The World Printer Specialist

Inkjet Printers • Dot Matrix Printers • Laser Printers

EPSON

*Microsoft® and Windows™ are trademarks of the Microsoft corporation

MEGADISK TUTORIALS

Andy Shaw lifts the lid off this month's great MegaDisk selection

Agfa Discovery True Type Pack

UP AND RUNNING

MAKE sure you have a spare blank high density disk, as this software needs it for installing to Windows. With the MegaDisk in A:, type PCHOME at the prompt. Choose option 1 and follow the on-screen instructions.

Enter Windows by typing WIN, choose Run from the File menu of the Program Manager, and type A:\INSTALL.EXE. Choose from the available installation options.

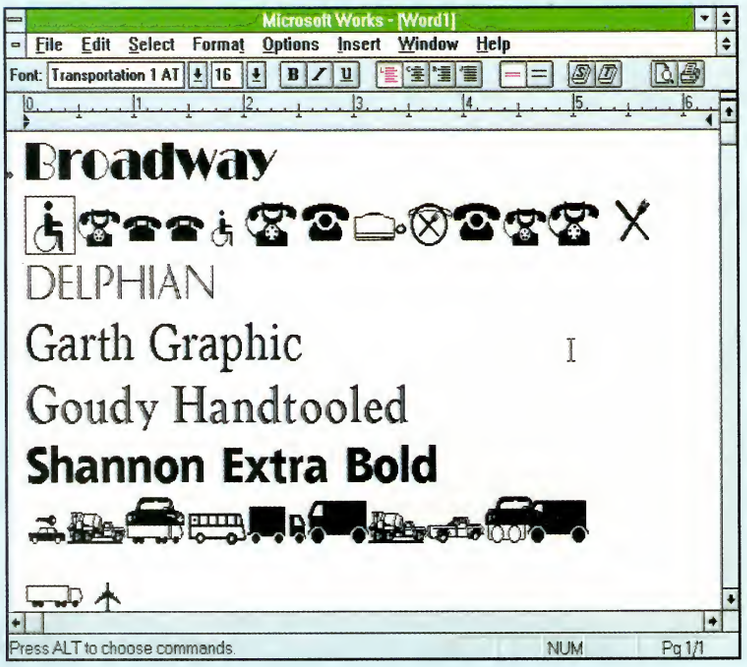
REQUIREMENTS: Any PC running Windows
DIRECTORY INSTALLED TO: C:\AGFA
TO RUN: Double click on the Discovery Font Guide icon in the Accessories program group. Fonts can be used straight away with any Windows application

ONCE installed, the TrueType fonts should be available for use in any of the Windows packages you can normally change fonts in. Try loading up your Windows wordprocessor, and changing the font to any of those listed with ATT after their name. Type a few letters and you should get an idea of what each font looks like.

Included is a special help file which looks at some of the history of fonts as well as how to use the supplied ones with your Windows. This can be read after installation by clicking on the relevant icon in the Accessories program group.

Some of the fonts – Transportation 1 and Communication 1 – are clip art fonts, which means the keyboard can be used to add handy symbols to documents. To find out what each key does, read the key chart enclosed with the guide.

For more information on the Discovery TrueType Pack call Agfa in Ireland on 010 353 1284 9511.



The fonts available on the MegaDisk

Telegraph Crossword

UP AND RUNNING

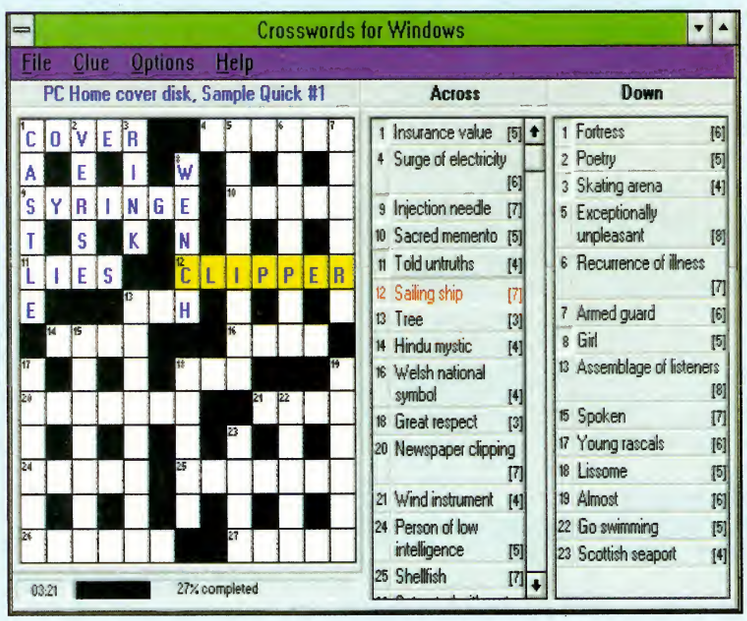
WITH the MegaDisk in drive a:, type WIN to enter Windows. Choose RUN from the File menu of the Program Manager and type A:\WORDGAME\SETUP. Once it has installed, double click on the crossword icon.

REQUIREMENTS: Any PC running Windows
DIRECTORY INSTALLED TO: C:\WINDOWS\WORDGAME
TO RUN: Double click on the Crossword icon

THIS software is a cut down version of the excellent Telegraph Crossword with four puzzles for you to try. Two of them are Quick crosswords with the others being Cryptic, so it's recommended that you start with one of the former unless you are a word games wizard.

After double clicking on the crossword icon, choose Open Game from the File menu and choose a puzzle. To fill in a clue, either click on it so that the spaces are highlighted in the crossword display or click on one of the boxes to fill in. If the orientation is wrong, click on it again to swap it round. Then simply type in the answer.

If you're having trouble, choose an option from the Clue menu to help you out. There is also a scribble pad in the Options menu for jotting down notes as you go. If you have any trouble playing the game go to the Help menu. See page 127 for a full review of Daily Telegraph Crosswords for Windows.



One of the quick puzzles from Telegraph Crossword

NEVER MISS A COPY! FOR SPECIAL SUBSCRIPTION OFFER – SEE PAGE 82

Personality Matrix

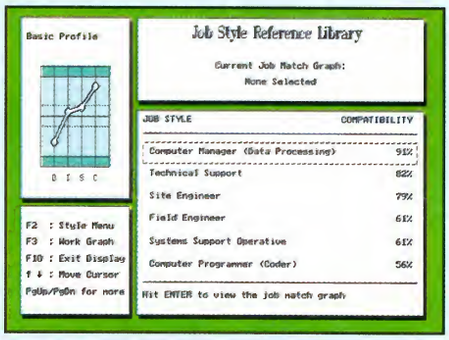
UP AND RUNNING

With the MegaDisk in drive a:, type PCHOME and choose option 2. Once installed, go into the PERMAT directory on c: and type PMATRIX.

REQUIREMENTS: 286 or better
DIRECTORY INSTALLED TO: C:\PERMAT
TO RUN: Type PMATRIX from the installed directory

IF you have ever wanted to know what a careers adviser might say about the job you are currently doing, or what kind of employment you are most suited for, the Personality Matrix can help you out. Upon loading, go through the options in the main menu, inputting details about yourself. Use the cursor keys to move around the menus.

Next you should answer the questions provided by choosing, out of the four statements, which describes you most and which least.



My profile reveals some very interesting information

Use the cursor keys to move around the screen, the Return key to choose an option and the spacebar to move on to the next set of questions. Remember there's a time limit though. Personality Matrix will then compare these results to its data and come up with details of which kinds of jobs you are most suited to.

Hit F1 at any time to get detailed help on any of the individual screens. This shareware version only has limited data storage and will not print out information. For more information on the Personality Matrix call Transend Software on 0274 622228.

Dinosaur Detective Agency

UP AND RUNNING

Insert the MegaDisk into drive a: and type PCHOME. Choose option four and it will install automatically. Type CD \DINO followed by DINODEMO to run the game.

REQUIREMENTS: 386 with 2Mb, VGA graphics
DIRECTORY INSTALLED TO: C:\DINO
TO RUN: Type DINODEMO from the installed directory

PLATFORM action is the order of the day in this five minute demonstration game. Guide the dinosaur around the dangerous urban landscape, jumping on anything and everything to find a poor old lady's lost pet.

From the main menu, choose the joy-stick option to calibrate your stick, or the keyboard option if you prefer. Follow the on screen instructions to choose which keys control the movement of the dinosaur.

Some of the platforms will boost your jumping power, but these are well hidden and it may take a little while before you can complete the level within the five minutes.

Guide the dinosaur around the buildings

For more information on Dinosaurs Detective Agency call Alternative Software on 0977 797777.

JumpJet

UP AND RUNNING

Insert the MegaDisk into drive A: and type PCHOME. Choose option 5 and it will install automatically. Type CD JET followed by JUMPJET to run the game.

REQUIREMENTS: 286, Hercules, CGA, EGA graphics or better
DIRECTORY INSTALLED TO: C:\JET
TORUN: Type JUMPJET from the installed directory

JUMPJET is a fiendishly addictive arcade game inspired by that age old classic Defender. Fly your jet fighter around the landscape, completing the mission objectives to move onto the next level. Sometimes there are extra bonus levels to complete which will earn extra points.

Choose the graphics card most suitable for your machine, then choose the Play option to get going. The keys are:

Cursor left	Accelerate left
Cursor right	Accelerate right
Cursor up	Accelerate up
Cursor down	Accelerate down
Space bar	Fire
P	Pause
Escape	Quit

That'll be me getting shot down by the enemy

Complete the mission to finish the level

Microsoft MONEY

UP AND RUNNING

START up Windows and insert the bonus MegaDisk into drive a:. Now go to the Program Manager, select Run from the File menu and type A:\SETUP. Hit Return and the program will install, creating a Money icon in your Program Manager. Double click on this icon to start the program.

REQUIREMENTS: Windows
DIRECTORY INSTALLED TO: Default is C:\MSMONEY
TO RUN: Double click on the Money icon

MICROSOFT Money 2.0 was a critical and commercial success for Microsoft. Now the company have revamped and updated the product and are giving *PC HOME* readers the opportunity to test drive the new version.

This month's bonus MegaDisk contains the fully working product, the only restriction is one of time – you have 60 days in which to evaluate the product.

This step by step guide will help you make the most of Money. If you have no previous experience of managing your home accounts don't worry, this is a good place to start. A mouse is recommended but you can get by without one.

Follow the instructions above to install the product in Windows. To run the program double click on the icon. Money will ask you to identify yourself so type in your name and click ok.

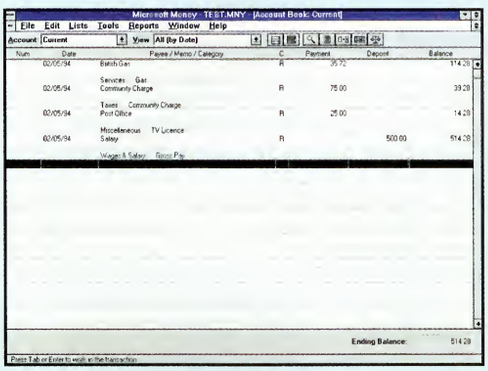
You will now need to setup an account. Money prompts you for a name.

You must now choose a category for your account of which there are four – Home, Business, both Home and Business or None. Initially it's

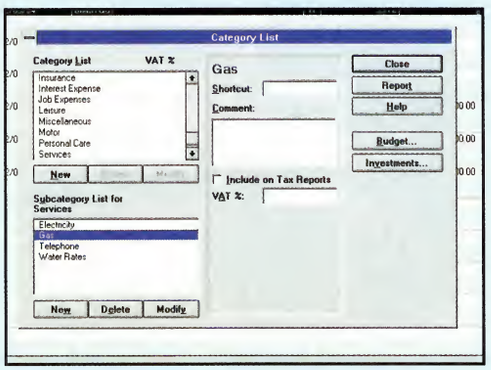
MICROSOFT MONEY 3.0

Money 3.0 tutorial part one

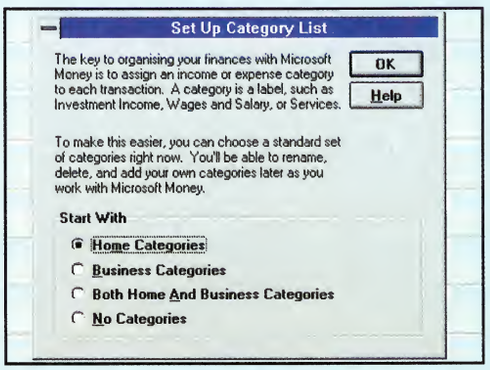
This month's bonus MegaDisk* could ease all your financial headaches. Matthew Mc Grath helps you set up the program so that managing your finances will be child's play



This is how your Account Book should look after you've made the initial entries



Your category list. It's very easy to customise the program by adding categories that suit your needs



Setting up your new account offers you the choice of categories

best to set up with just home categories.

Having done this Money asks you to create a bank account for your file.It won't let you proceed until you do. There are various types of account but the easiest one to work with is your bank current account.

Click Current and then fill in the amount for the opening balance. Don't worry if this is not completely accurate as you can amend the amount the balance by an adjustment later on. For the purpose of getting to know Money input a figure of £150.

You are then left with what looks like an empty screen. It awaits your input. This screen is called the Account Book. It is a basic record of all transactions that you complete. Let's try entering a few to see how Money works.

Suppose you've just received a gas bill in the post for £35.72 and a community charge bill for £75.00. In addition you have a direct debit for your TV licence for £25 due today. Luckily enough your salary is also due in to your account today. It amounts to £500.

On the button bar in the Account Book are various headings. The most important of these is Payee/Memo/Category. Bit of a mouthful but it's where the most important piece of information goes in any transaction – who did you pay the money to or from whom did you receive the loot from.

Let's enter the first bill. Click in the first slot beneath the button bar in the Account Book.

The program knows that you want to enter information so it does what it can to help you. It automatically inputs the current date which you can obviously change.

Under the Payee/Memo/Category heading type in British Gas, tab across to the Payment column and input the amount £35.72.

Tab down to the memo line and you can put in a small note to yourself here such as the current gas meter reading. Tab again and you display the categories list.

Categories are the key to keeping good home accounts. Both Income and Expense categories are displayed in this list. Scroll down until you come to Services on the Expense side. Select it and then tab across to the next section.

Click on the down arrow and you'll see a list of gas, telephone, electricity and water. With the next entry follow the same pattern. Type Community Charge in the Payee section and then Taxes in the Expense section. Community charge is a sub-category of this.

To set up a regular payment select Future Transaction from the Window menu.This brings up a white screen with the same details as your main screen. Fill in the same way as normal. As a category select Miscellaneous.

You'll see that none of the sub-categories seem appropriate for a TV licence. So here's how to add a category. From the Lists menu select Category. It will display a list of all categories with sub categories underneath.

The current selection is highlighted. In the bottom window click on New and type TV Licence in the dialog box. You can then select this in the Future Transactions Window.

Go back to your main Account Book and you'll see that the TV Licence bill has been entered. All that remains now is to enter your salary in a similar manner except this time you use the deposit column. If you feel the category Wages and Salaries isn't specific add a new one. Perhaps you should have one for your spouse as well.

All the above information can be entered into your Account Book by using the Forms option from the Windows menu. This does exactly the same thing except it uses a picturesque form, similar to a chequebook to enter both payments and deposits.

To work out how you're doing in terms of making ends meet, you need to balance your Account Book with a statement from your bank. To do this click on the Tools Menu and select the Balance Account option.

You then enter the statement date, the starting balance and the ending balance from your statement. If there are any bank charges or interest earned then enter this as well.

If there is a difference in your amounts Money will ask you to go through each item and mark it cleared or otherwise. If your Account Book still differs from your statement Money will tell you that either you've missed something from the statement or something has cleared when it shouldn't have. It will check through your Account Book for you and offer help on solving the problem. If you locate it yourself you can simply automatically adjust the account.

* The bonus MegaDisk is only on the cover of editions sold inside the UK

● *Next month I'll take you through the steps required to set up and work a budget plus I'll show you how to use the Financial Wizards.*

See page 22 for an exclusive offer for PC HOME readers

MEGADISKS HELP

ABSOLUTE BEGINNERS

THE MegaDisks included with *PC HOME* are high density. This means that they can (each) hold 1.4Mb of data – that's 1,457,664 bytes, or characters, of information.

If you own an old computer you may not be able to read this disk. If you find this is the case, take advantage of our HD swap offer on this page.

To start using the MegaDisk, turn on your computer.

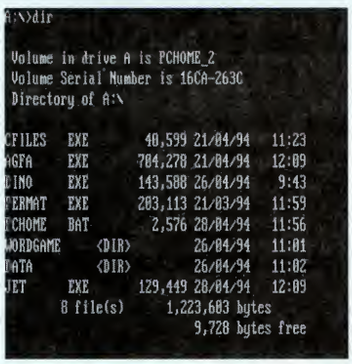
When it has finished doing its business you may either be at a flashing cursor – the Dos prompt – or in Windows, depending on how your system is set up.

If you are in the latter, you will need to exit because you cannot generally use the disk within the environment unless the instructions tell you otherwise.

The Dos prompt tells you which drive you are on. When you first turn on your computer you will find this may read C:\ > indicating you are on drive C, your hard drive.

To use the MegaDisk, you will need to insert it into either floppy drive A or B. Once you have done this, type A: or B:, depending on the drive you have selected.

Once you have done this you may safely install the software on the MegaDisk.



INSTALLING THE SOFTWARE

WITH all of the *PC HOME* software, there is a simple to use menu program that installs the programs to your hard drive simply and effectively. Just follow this guide:

1 Log on to the drive containing either MegaDisk by typing A: or B: depending on the drive the disk is in.

2 Now type *PCHOME* and press the Enter key.

3 You will now see either the Microsoft Money installation instructions or the software menu shown right.

4 Now follow the on screen instructions to install the required program.

5 If you wish to quit the menu any time press 0.

You can then move to the drive that you have installed the programs (usually drive C) by typing C:

HD Disk

IF you are unable to use the disk supplied with the magazine, it may be because you have a low density drive. If this is so, take advantage of our disk replacement offer. If you enclose the disk along with an SAE we will supply you with two low density disk replacements. Send the disks to:

PC Home HD swap
FREEPOST
Europress Publications,
Europa House,
Adlington Park, Macclesfield
SK10 8BU

Please note: The disks take approximately 28 days for delivery

Faulty disk

THE coverdisks are thoroughly tested at every stage of production, but inevitably when such a large batch is duplicated, one or two bad ones will slip through. You can generally tell if a disk is faulty if you encounter one of the following errors in whole or part.

```
Error reading drive
Data error
Sector not found
Read error
```

However, if you damage the disk yourself, include a cheque or postal order for £1.50 to:

PC Wise,
Daulais Top Business Park,
Daulais, Merthyr Tydfil,
Mid Glamorgan CF48 2YY

Disclaimer

The *PC HOME* disks are checked thoroughly at every stage of production for suitability, compatibility and functionality.

Each program supplied to you is checked vigorously with at least four independent virus checking programs such as Norton Anti Virus.

The disks, once compiled are duplicated under strict quality control and batch tested to ensure standards are maintained.

Europress Publications will accept no responsibility for any damage or loss caused by their use or mis-use.

MEGADISK HELPLINE
0625 858084

What you need to run our CD programs

CONFUSED by the multitude of different system requirements? Do you know the difference between expanded memory (EMS) and extended memory (XMS)?

Here follows some help on how to configure your system to run the software supplied.

In the root directory of drive C you should have two system files autoexec.bat and config.sys. To change these files use the Dos command Edit.

For example to alter the contents of the config file enter EDIT CONFIG.SYS.

Generally in this file you should have the line:

```
device = c:\dos\himem.sys
```

This instructs the computer to turn all your computer's memory to extended memory.

Some programs require expanded memory to run. This is obtainable by adding the following lines in the exact order:

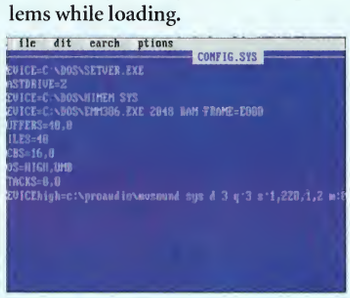
```
device = c:\dos\himem.sys
device = c:\dos\emm386.exe 1024 ram frame=e000
dos = high, umb
```

The number 1,024 may be changed to a higher value, depending on how much memory your computer has.

For example if you have 4Mb of ram you may change this to 3,800.

The more you have available the better the program will run. When you run the Dos menu system, it will tell you how your system is configured. It's a good idea to make a note of this information.

Some demos require that you do not have an expanded memory manager such as emm386, therefore you should remove this line altogether otherwise you may encounter problems while loading.



THE FASTEST, EASIEST WAY TO ORGANISE HOME AND SMALL BUSINESS FINANCES

Control your finances and plan your future with *new Quicken 3.0!*

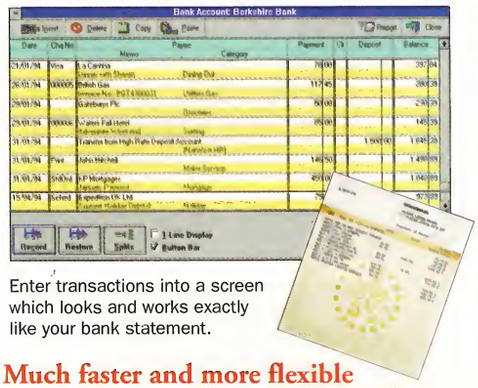
INTRODUCING QUICKEN 3.0 FOR WINDOWS AT £59.95 AND QUICKEN 6.0 FOR DOS AT £49.95 INCLUSIVE.

Quicken puts you in absolute control of all your finances

Quicken tracks standing orders, reconciles bank accounts, organises VAT information and manages investment portfolios. Account balances are updated automatically, and clear reports and graphs show your precise financial status.

Quicken is easy to use; it works the way you already do

Enter all your financial records quickly and easily, using familiar tools: a calendar, cheque book, bank statement and calculator. Reconciling your bank statement is simple – just check it against the list on screen. Quicken highlights errors instantly. There's nothing new to learn!



Enter transactions into a screen which looks and works exactly like your bank statement.

Much faster and more flexible than doing your finances by hand

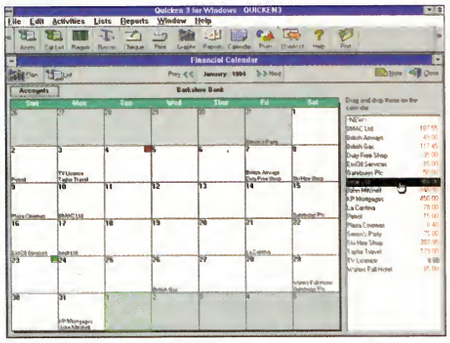
Data entry is minimised; when you need to type an entry, Quicken helps you complete the task in half the time. Schedule recurring payments, including standing orders – Quicken memorises regular transactions and updates your accounts on the dates you specify. You'll spend less time organising your finances, leaving more time to analyse your precise financial status.

Quicken's reports and graphs provide detailed financial analysis

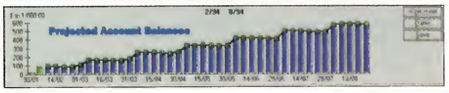
Customise Quicken's reports to see precisely the information you need. Choose the periods and categories you want to examine. Memorise reports and graphs for future reference. Comparison Reports highlight trends over any two periods; Budget Reports show actual performance vs plan. Unique QuickZoom Reports give an instant breakdown of any report or graph total.

The fastest, easiest way to organise small business finances

Quicken provides detailed insight into your business finances, producing P & L Statements, Balance Sheets, Cash Flow and Budget Reports, and more. VAT is tracked automatically, and Quicken presents all VAT return information. Track income and expenses by client, job or project. Quicken reminds you when payments fall due. Quicken keeps you in control of your finances, giving you more time to grow your business.



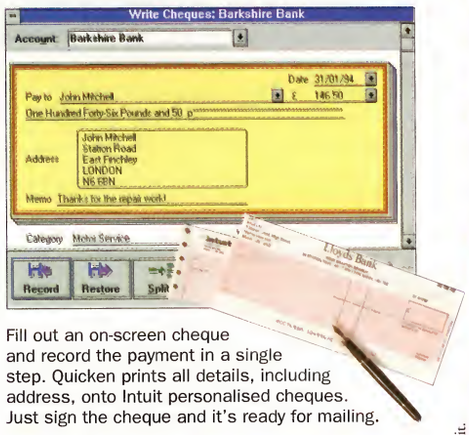
Drag and drop your transactions onto the **Financial Calendar**; Quicken updates your accounts automatically. All scheduled transactions are displayed, and there's even room to add notes and reminders – you need never forget to pay a bill again!



The **Financial Planning Graph** helps you shape your financial future. Make 'What If?' projections and see the effect of each plan on your overall net worth. Plan when to meet payment demands, or when to arrange an overdraft.

QuickInvoice manages your invoices painlessly

QuickInvoice works with Quicken for Windows to keep you in complete control of money owed to you. Fill out your invoices on screen – all totals and VAT are calculated for you. Print perfect invoices every time, and update your sales account within Quicken for Windows in a single mouse-click.



Fill out an on-screen cheque and record the payment in a single step. Quicken prints all details, including address, onto Intuit personalised cheques. Just sign the cheque and it's ready for mailing.

Why is Quicken the world's best-selling finance program?

Quicken has sold over 6 million copies worldwide, and has won numerous awards. We're so confident that Quicken will put you in complete control of your finances, we offer a 60-day money-back guarantee if you are not 100% satisfied. You'll also be entitled to Free Unlimited Technical Support.

WHAT PC? BEST BUY · PC MAGAZINE EDITORS' CHOICE · PC TODAY RECOMMENDED · 1993 ANNUAL WINDOWS 100 WIN AWARD

From March 7th, Quicken 3.0 is stocked by good computer stores, including:

Byte The Computer Superstore 021 733 7373	Computer Store Ryman	PC World The Computer Superstore 0800 486111
Currys	Technomatic 081 205 9558	Ware House 0675 466467
Escom 0800 665500	Compustore Dublin 506255	
Micro Anvika Computer solutions 071 636 2547	Dixons	Windowline 081 401 1177
	makro	Tempo 081 974 8606
Staples The Office Superstore 081 452 0080	Watford Electronics Ltd 0582 745555	

Quicken for Windows: £59.95
Quicken for DOS: £49.95
QuickInvoice for Windows: £39.95

Or buy Quicken 3.0 direct from Intuit now on:

0800 585058

Intuit Main number: +44 (0)81 990 5500.

YES! PLEASE RUSH ME:

- ☐ **Quicken UK v6.0 for DOS at £49.95 (inc. p&p and £7.44 VAT)**
- ☐ **Quicken UK v3.0 for Windows at £59.95 (inc. p&p and £8.93 VAT)**
- ☐ **Quicken UK v3.0 for Windows and QuickInvoice for Windows at £99.90 (inc. p&p and £14.88 VAT)**
- ☐ **QuickInvoice for Windows at £39.95 (inc. p&p and £5.95 VAT)**

(If ordering outside the UK, please call our main number to confirm shipping charges)

PC disk format required: ☐ 3½ ☐ 5¼

By Phone: Call us now on 0800 585058 quoting your credit card details.
By Fax: Fill in this coupon with your credit card details and fax it to us on +44 (0)81 759 2077.
By Post: Fill in this coupon and post it with a cheque or your credit card details to Intuit Limited, Manor Court, High Street, Harmondsworth, West Drayton, Middlesex UB7 0AQ.

If I am not completely satisfied with Quicken, I understand I can return it within 60 days with my dated receipt to the place of purchase for a full refund.

Name .....
Billing address* .....
.....
.....
Postcode .....
Phone no .....

PCU/6/4/94

Please charge my ☐ Visa ☐ Access ☐ American Express ☐ Delta
Number .....
Expiry date .....

*Please indicate elsewhere if delivery address differs from billing address. Please allow 14 days for delivery. 98% of deliveries occur within 6 days of placing an order.

Access · VISA · American Express · Eurocard · MasterCard

Quicken and QuickInvoice are registered trademarks of Intuit.

60-DAY MONEY-BACK GUARANTEE AND FREE UNLIMITED TECHNICAL SUPPORT

MEGA CD-ROM COLLECTION

Another disc packed full of the best in games, education and general interest programs. Here's the lowdown...

No.8

UP AND RUNNING

THE programs on the CD-Rom have been categorised into two sections: Windows and Dos. Each set of programs has its own menu system. Getting it to run couldn't be easier.

Dos programs

TO run the Dos menu move to your CD-Rom drive by typing its letter followed by a colon – for example D: and then press Return. Now you can type PCHOME, press Return, and the menu will load.

The interface will briefly examine your system and produce a report of its configuration. It will inform you of any EMS memory, a mouse installed, a SoundBlaster compatible card and how much free hard disk space you have.

At this point it is useful to make a note of the above information as some of the programs have different systems requirements.

If you are running the program for the first time you will find that it will create a directory called PCHOME on your hard drive C.

This is used by the menu program to hold remove information for some of the packages.

Press Return once you have read the information and a small window will appear.

Read this, press Return or click on the continue bar and another will appear. Press Return or click again and you will see the main menu.

Towards the top left of the screen is a window that displays a list of the Dos software available. Use the up and down arrow keys or click on the corresponding button (in the top right hand corner) with the mouse to move through the software.

At the bottom of the screen you will see the descriptions box which contains information about the currently highlighted program. Again, read this before selecting the program.

To exit from the menu without selecting any programs press Escape or click on Quit, and then answer yes to confirm.

If you wish to select and install one of the programs in the menu, you must highlight the required item, as previously described. Then press Return or click Select and the menu will return you to Dos in the directory in which the selected item is stored on the CD.

You will then be instructed on what to do next and you will also be supplied with any necessary information regarding memory or installation requirements.

Windows programs

THE Windows programs also have their own menu system which you can install. This is done from within Windows.

Select File from the program manager and then click on Run. You will now be asked for the path. Enter the path D:\PCH\SETUP where D is the letter of your CD drive.

This will load the *PC HOME* menu system, set up a new program group and install the *PC HOME* icon.

Here you are also given instructions on loading or upgrading Video for Windows. Read these carefully as this package is required to access items such as the video clips.

Once all the items necessary items have been installed you will be returned to Windows. Click on the *PC HOME* icon and you will see the startup screen.

Here you can click on OK to run the menu system and view the animations first. This is recommended for first time users, or you can click on Quick Start to run bypassing the animations.

The next screen that you will see is the Main Menu where you can select to install and run the free software, access Mag-a-disc, play audio CDs and much more.

Click on the monitor icon to access the software menu. This you will see, works in a similar way to the Dos menu. Highlight the item you require, read the information at the bottom of the screen, click Run to execute the highlighted item or Close to exit to the main menu.

Mag-a-disc

THE revolutionary magazine on disc returns this month with video reviews of Sam & Max CD and Dragon's Lair. Also featured are Red Crystal and Myst. Plus there's video footage of the *PC HOME* family and the story, so far, of their exploits with a multi-media PC.

GENERAL

Top Draw

Nildram, Windows:
This evaluation version of Nildram's drawing package supports all features and requires about 2Mb of free memory under Windows and a 386 PC to run. You must press a key to bypass the *Sign-On* dialog box.

A registration reminder appears on printed output, drawings copied to the clipboard and exported drawings. The online help provided contains the same information as the printed User's Guide.

See page 155 for a full review of this fantastic package. We strongly recommend that you register.

Help Browser

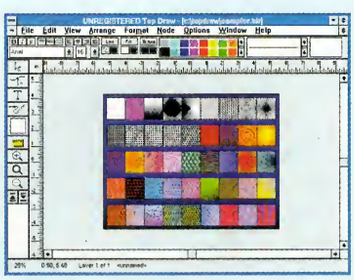
Oxford Computer Consultants, Windows:
This product builds a very useful contents page for use with the help files under Program Manager and File Manager.

It will let you click on any topic listed under that index enabling you quick and easy access to all of the indexed topics. A very useful utility. See last month's issue for a review of the full package.

SoundFX 2

Moose Productions, Windows:
This is a follow up to SoundFX V1 that was included on Mega CD-Rom 7. The improvements on version 1 are that it now includes full supports for WAV audio, MID music files and compact disc audio.

It is a multi-part sound utility



Nildram's Top Draw

Having problems

which includes features such as Push Player, Sequencer, CD player and a VOC/RAW sample converter. Full version.

Johnny Castaway

Sierra, Windows:
The screen saver with a difference! Johnny Castaway is an animated screen saver for windows. It incorporates sound and cartoon style graphics.

Flying Fingers

Europress Software, Windows:
This is a typing tutor like no other. You can decide in advance when you want to have a lesson and the program will give you a gentle reminder. The in-built family are always popping up to make sure you are on the right track. But if they're not around when you need some extra advice just click on the Help icon.

D-Day Journal

Mindscape, Windows:
A multimedia collection of video, photographs and sound of D-Day, taken from a variety of sources. It includes full narration of events connected with the landings throughout the different stages. Commentary is available in English and French. Watch out for a full review next month.

GAMES

Raptor

Transend, Dos:
A truly brilliant vertical scrolling shoot-'em-up and a must for lovers of games such as Xenon2. You can play this demo directly from CD but you will not be able to change the sound card settings, so installation to hard disk is recommended. See page 156 for a full review.

God of Thunder

Transend, Dos:
In this arcade/adventure game, you are Thor – the god of thunder! Armed with your enchanted hammer and considerable wits, you must think and fight your way past dozens of puzzles and hundreds of enemies to reach the final showdown with the Midgard Serpent.

The Elder Scrolls

US Gold, Dos:
Welcome to the world of Tamriel, known by its inhabitants as the Arena. This demo is just a glimpse at what awaits you in the Elder Scrolls: Over 400 towns, 12 million square kilometres of cities and wilderness, and more fortresses, dungeons and crypts than we can count.

Evasive Action

Mindscape, Dos:
This is a demonstration version of the highly playable flight combat game, rated 80 per cent in the April issue of *PC HOME*.

Fly your aircraft in pursuit of the enemy. Find them and wipe them out, or maybe you will just have to dodge their incoming missiles? Great sound and graphics.

Rally

Europress Software, Dos:
The first racing simulator to really capture the feel for rallying. Joystick may be selected by pressing F10. Ctrl+Esc quits to Dos.

When it is raining or snowing you may use F12 to toggle to weather effect on the windscreen. Supports PC Speaker or SoundBlaster.

Gabriel Knight

Sierra, Dos:
This interactive demo covers day one of the game's 10 days.

Check out the About screen – click on the Sierra Logo in the control panel) – where you will find information about the full game, the purpose of this demo, and some playing tips. Mouse only.

Discis

Remember the Mega-CD-Rom also contains the six programs from the Mega-Disks

Optech, Dos:
THIS is an easy-to-use interactive collection of books which runs under Dos. It has large friendly icons and mouse support to enable young children to get to grips with it very quickly, and with the minimum of parental support.

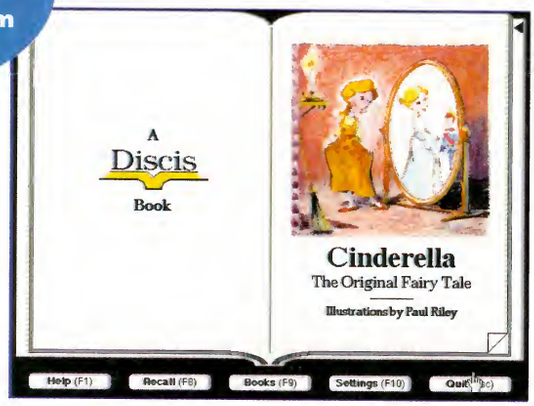
Not only is it fun to browse through the disc-based books, but it is also educational too. Discis will help young children who are learning to read as the text is highlighted then read out to them when they click on the speaker icon on each page. Every page of text is accompanied by a superbly drawn illustration.

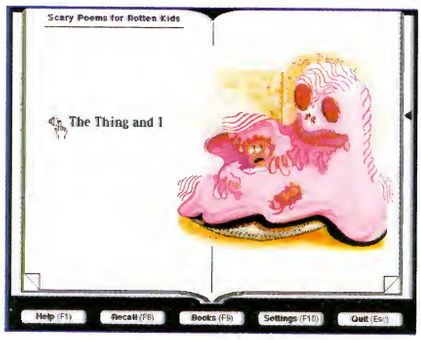
As well as Colours, Counting and Opposites books, there are classics that are loved by all generations, such as Cinderella and The Tale of Peter Rabbit.

Parents and children can look and listen together as they browse through this fascinating collection.

After Discis Book starts to run, an opening window appears giving a list of books and five options you can select.

You can select a book to read by clicking on the book description and then you can now click the open to select the highlighted book.





The opening page of the book

EDUCATION

StoryBook Weaver

Europress Software, Dos:
A demo of a delightful package for children of all ages, enabling them to create stories using pictures, words and music. It couldn't be easier to use.

Primary Works

Mindscape, Dos:
Repeated from last month, this is a collection of four demos – First Steps (for ages 3-7), Second Steps (5-9), Little Artist (5-12) and Little Author (5-11). See page 89 for reviews of these products.

Pepper's Adventures

Sierra, Dos and Windows:
A great edutainment game in the style of the classic Sierra adventures. Uncle Fred has built a time machine that's going to mess with history, and Pepper has fallen into it.

D-Day: The Crossings

Rally from Europress Software

StoryBook Weaver

Contact point

Europress Software	0625 859444
Mindscape	0444 872234
Nildram	0442 891331
Optech	0252 714340
Oxford Consultants	0865 793077
Sierra	0734 303322
Transend	0274 622228
US Gold	021-606 1800

with the CD-Rom coverdisk? Call our helpline on 0625 858084

Coming soon on the Mega-CD-Rom...

UNDER A KILLING MOON

Pete Hawley previews the first truly interactive CD Movie and gives you a taster of what you can expect from the massive playable CD-Rom demo

The cops prove to be more of a hindrance than help – talk to characters with the simple interface screen

IN THE past what we've expected from CD-Rom games and interactive movies and what they have actually offered have been two entirely different things. Most SVGA CD-Rom games look and sound incredible but offer about as much interaction as your average video. Under a Killing Moon from US Gold could be the game to change all that.

Virgin's 7th Guest scrolled smoothly and looked breathtaking, but cheated when you actually came to play it because you could only follow set, rendered paths. Under a Killing Moon looks equally as stunning but gives you complete freedom of movement.

If you are familiar with Blade Runner's dark visions of the future and you add more than a touch of tongue in cheek humour you'll have a pretty good idea of what to expect.

The destiny of private eye Tex Murphy is yours to control as he sets out on his quest to halt the evil Chameleon who is is preserving a genetically pure master race in his orbital space station waiting for the day he can take over the world.

Link the pieces of evidence to build up a clearer picture of your task, question people, collect items of interest to use later and interact with anything you see that may be of help. You will certainly recognise some of the game's characters: Margot Kidder – Lois Lane from Superman, Brian Kieth and Russel Means all make their appearances as the game unfolds.

Under a Killing Moon's game engine allows you to interact with your environment and move freely through the rendered streets and buildings of a futuristic San Francisco. Climb stairs and operate elevators, change your perspective and eye level, looking up and down. For the first time it looks and feels like you are stood in another room in another time and not just pointing and clicking your way through a variety of rendered rooms and corridors.

● *Under a Killing Moon is due for release this summer on three CD-Roms. In the next couple of month's we're giving away a massive playable demo of the game with the CD-Rom edition of* PC HOME *– exclusive to Europress Publications. Make sure that you don't miss out!*

Tex Murphy P.I., dancing tutor and all round entertainer

Guide Tex through the city in his search for the Chameleon

Move freely through the futuristic streets of San Francisco

FIRST COMPUTER CENTRE

HOW TO ORDER

Order by telephone quoting your credit card number.
If paying by cheque please make payable to the:
FIRST COMPUTER CENTRE
In any correspondence please quote a phone number & post code. Allow 5 working days cheque clearance.

SHOWROOM ADDRESS:
Dept. PCH,
UNIT 3 ARMLEY PARK COURT
OFF CECIL ST,
STANNINGLEY RD, LEEDS. LS12 2AE

Prices are correct at the time of going to press. Please check our latest prices before ordering. All sales are subject to our standard terms & conditions (copy available upon request) E&OE

DELIVERY TARIFFS

- 2-3 Week Days £3.50
- Next Week Day £5.00

Delivery subject to stock availability

- All Prices Exclude VAT @ 17.5%
- 1200 sq. ft. Showroom
- Free Large Car Park
- Overseas Orders Welcome
- Educational Orders Welcome
- Trading for Over 4 Years
- A Multi-Million £ Company
- Complete Systems Built to Order
- Fully Equipped Repair Workshop
- OPEN 7 DAYS A WEEK

SALES & TECHNICAL

24 HOUR MAIL ORDER SERVICE

0532 319444

FAX: 0532 319191

SWITCH VISA DELTA MasterCard AMERICAN EXPRESS

PC REPAIR CENTRE

We offer a FREE quotation on your PC or any peripherals (monitors, printers etc). A delivery tariff of just £5.00 is charged or you can visit our showroom. We can also arrange a courier pickup at an additional cost of £11.00

From the M62 take the M621 and follow the turnoff for Leeds/York. This will merge with the Armley gyratory.

From the M1 follow signs for the M621 (ignore exit for town centre). Take A643 Elland Rd turnoff from M621. Follow signs for A58. This merges with Armley gyratory.

From the A1 take the turnoff for the A64. This merges with the A58 (by-passing Leeds town centre) which meets the Armley gyratory. After "Living World" at traffic lights take a right, left, left again, & 2nd left to get to FCC.

SUPRA MODEMS

SupraFAXModem 288

28,800 Data + 14,400 Fax!

- Up to 115,200bps (v42bis)
- Class 1 & 2 Fax
- Silent & Adaptive Answer
- V.FAST.CLASS
- Flash ROM - Just download V.34
- Dos & Windows Fax Software
- 5 Year Warranty

Int. £210 Ext. £243

SupraFAXModem V.32bi

14,400 Data + 14,400 Fax!

- Up to 57,600bps (v42bis)
- Class 1 & 2 Fax
- Silent & Adaptive Answer
- Dos & Windows Fax Software
- 5 Year Warranty

£183

...excellent performance, this modem should be on everyone's shortlist. *Computer Shopper - April 94*

SupraFAXModem 144LC

14,400 Data + 14,400 Fax!

- Up to 57,600bps (v42bis)
- Class 1 Fax
- Silent Answer
- Dos & Windows Fax Software
- 5 Year Warranty

£136

...performed perfectly, easy to set up and never missed a connection. *Computer Shopper - April 94*

Supra V32b Internal *Specs as per Supra V32bis External*	£128
Supra Fax Plus *External 2400 modem with V42b 9600 Fax*	£98
Supra Fax 24/96i *Internal 2400 modem. 9600/4800 Fax*	£47
Supra Modem 2400 *External. Original, and still the best!*	£56

Supra Modems are non-babt approved

US Robotics

SPORTSTER 14400

- 14,400 Data & Fax
- Up to 57,600bps (v42bis)
- Class 1 Fax
- Fully BABT Approved
- Dos & Win Fax Software
- 5 Year Warranty

£163

Courier V32ter+Fax	£369
Courier Dual 16.8/V32t	£474
Sportster 2496	£89
Sportster 14400	£163
WorldPort 2496+Fax	£229
WorldPort 14400+Fax	£195

PACE MODEMS

MICROLIN V32bis

14,400 Data + 14,400 Fax!

- Up to 57,600bps (v42bis)
- Class 1 & 2 Fax
- Pocket Sized
- Dos & Windows Fax Software
- 5 Year Warranty

only £178

MICROLIN V22bis

2400 Data + 9600 Fax!

- Up to 9600bps (v42bis)
- Class 1 & 2 Fax
- Pocket Sized
- Dos & Windows Fax Software
- 5 Year Warranty

only £115

ROMBO VIDEO

VIDI PC 12

12 Bit Capture System. Up to 4096 Colours. Takes less than one second to capture one video frame. 16 Grey scale images can be grabbed. PAL/NTSC Composite/S-Video Inputs. RGB Output. Powerful Photo-Finish software included FREE! Load/Save 24bit RGB,TIFF,BMP.

only £115

VIDI PC 24

24 Bit Capture System. Up to 16.7 million Colours. 256 Grey scale images can be grabbed from moving video. PAL/NTSC Composite/S-Video Inputs. RGB Output. Powerful Photo-Finish software included FREE! Load/Save 24bit RGB,TIFF,BMP.

only £170

MEDIA PRO PLUS

Full motion TV/Video & Sound for Windows 3.1. Up to 16.7 million Colours.
Less than a second to capture full-colour images.256 Grey scale images can be grabbed from moving video. PAL/NTSC Composite/S-Video Inputs. RGB Output. Powerful Photo-Finish software included FREE! Plus 2 speakers and headphones.

only £220 Hi-Res £250

VGA-TV BUSTER Pro

Allows perfect totally flicker free colour output to normal TV or Video What is seen on screen can be recorded back on tape after editing.
No flicker modes for DOS & Windows. Supports Windows 3.1 and DOS. Supports CGA, EGA and VGA. Resolution up to 640*480, 16 to 256 colours, RGB, composite & SVHS outputs, PAL or NTCS. Available in external & internal versions.

only £99

ROMBO PC TUNER

Works with Media pro Plus to allow normal TV to be watched in a resizable window while using any Windows based program. Remote control styled user interface.
Works with all C&T/Philips chipset implementations. Supports PAL/NTSC & SECAM.

only £99

MORE CD ROMS

9000 Sounds	£19	Dr Games	£16
Adventures in FairyLand	£25	Dr Music	£16
Air Brush (Photo CD)	£25	Dr Shareware	£15
Animals in Motion	£12	Dr Windows	£16
Audio Collection MPC	£20	Dune	£19
Audio Research Library	£15	Electronic CookBook	£18
Berlitz French/German	£84	Encyclopedia of Sound	£11
Bibles & Religion	£11	Eric the Unready	£22
CD Challenge	£15	European Monarchs	£27
Classic Collection	£19	Games 1993	£19
ClipArt Goliath	£11	Ham Radio 3	£13
ClipArt Warehouse	£12	Hound of the Baskervilles	£12
CNN Newsroom Global	£46	House of Games	£16
Colossal CookBook	£12	Illustrated Holy Bible	£18
Complete Bookshop	£11	Interactive Storytime 1or2	£14
Conan the Cimerian	£22	Jazz - A Multimedia History	£42
Death Star Arcade Battles	£11	Jones in the Fast Lane	£19
Dictionaries & Language	£12	Kids Can Read	£31
Dictionary of the Living World	£24	Kids Zoo	£22
Discoveries of the Deep	£24	Libris Brittania	£21
Dr FunPack	£17	*Many More Titles in Stock. Call for List*	

CD ROM DRIVES

MITSUMI

FX001D -300ms 300kbs £150

NEC

2Xi -320ms 300kbs (int)	£155
3Xi -195ms 450kbs (int)	£292
3Xe -195ms 450kbs (ext)	£394
3Xp -250ms 450kbs (port)	£329
FD SCSI Card	£39

PANASONIC

CR562B -320ms 300kbs	£134
AT Controller Card	£12

TOSHIBA

3401B -200ms 330kbs (int)	£269
3401S -200ms 330kbs (ext)	£399
4101B -200ms 330kbs (int)	£167
FD SCSI Card	£39

TEAC

CD50 -250ms 335kbs (int) £252

CD ROM BUNDLES

SOUNDWARE 3000

- Panasonic CR562b
- Interface Card
- Halo Desktop Imager Software

only £189

SOUNDWARE 4000

- Panasonic CR562b
- Interface Card
- 16bit Gravis UltraSound Card
- Addup SS-50 Speaker System
- 7th Guest
- Chessmaster 3000
- World/US Atlas
- Mavis Beacon

only £399

SOUNDWARE 5000

- Panasonic CR562b
- Interface Card
- 16bit Gravis UltraSound Card
- Addup SS-50 Speaker System
- Lotus 1-2-3 for Windows
- Lotus Organiser
- Design Works
- Chessmaster 3000
- World/US Atlas
- Mavis Beacon

only £479

SOUND CARDS

CREATIVE

SoundBlaster 2 Value	£43
SoundBlaster Pro Value	£58
SoundBlaster 16 Value	£72
SoundBlaster 16 MCD	£108
SoundBlaster 16 MCD AdSP	£130
SoundBlaster 16 SCSI2	£130
SoundBlaster 16 SCSI2 AdSP	£151
SoundBlaster AWE32	£199

GRAVIS

Gravis Ultrasound 3D £108

SOUND GALAXY

Galaxy BX2 Extra	£47
Galaxy NX2 Extra	£61
Galaxy NX Pro Extra	£47
Galaxy Basic 16	£95
Galaxy NX Pro 16	£124

ORCHID

Sound Producer	£33
Sound Producer Pro	£73
GameWave 32	£107
SoundWave 32	£152

JOYSTICKS

CH Flightstick	£32
Gravis Analog	£26
Gravis Analog Pro	£30
Gravis Game Pad	£17
Gravis Eliminator Card	£20
Suncom Analog Xtra	£18
Suncom My Joystick	£11
Quickshot Python 5	£8
Quickshot Warrior 5	£8

SPEAKERS

Acoustic Research AV42	£48
Acoustic Research 622	£179
Labtec CS150	£14
Labtec CS550	£18
Labtec CS700	£22
Labtec CS800	£25
Labtec CS1000	£66
Zy-Fi Speakers	£23
Zy-Fi Pro Speakers	£49

hama TRILOCK GENLOCK ADAPTER

- Full Genlock & Video Overlay
- 256,000 Colours (640*480)
- Simultaneous Output
- PAL & NTSC Support
- Built-in Flicker Filter
- Computer Image Fade
- Computer & Video Image Cross-Fade
- Horizontal & Vertical Overscan Option
- Full Framestore with Memory Freeze
- No Driver Software Required

£276

VHS VHSC SVHS SVHSC Video 8 Hi8

MULTIMEDIA ACCESSORIES

CD Cleaning Kit	£16
CD Disc Caddy	£5
Kodak Photo CD	£15
Gravis MIDI Interface	£45
Gravis Panasonic Interface	£45
Gravis SCSI Interface	£45
Sound Blaster MIDI Blaster	£188
Sound Blaster Wave Blaster	£137
Sound Card MIDI Cable	£9
Sound Galaxy SCSI Board	£29
Sound Galaxy Sony Board	£7
Sound Galaxy Wave Power	£98

CD ROM LEISURE

7th Guest & Dune	£32
Action CD	£12
Airbus A320	£23
Alone in the Dark	£25
Amazon	£26
Arcade Fruit Machine	£11
Armaeth	£21
Arnie 2	£11
Arthur's Teacher Troubles	£19
B17 + Silent Service	£27
Barney Bear Goes to School	£16
Barney Bear Goes to Space	£16
BattleChess Enhanced	£14
Beneath the Steel Sky	£28
Best of MicroProse	£20
Big 100	£19
Blue Force	£24
Camage	£11
ChessMaster Pro (Karpov)	£13
Comanche	£28
Composer Quest	£13
Conspiracy	£30
Critical Path	£19
Cyber Race	£28
Cyber Worlds	£20
Dark Sun - Shattered Lands	£26
Day of the Tentacle	£25
Dracula Unleashed	£25
DragonSphere	£25
Dragons Lair	£37
Dungeon Hack	£24
Eco Quest	£22
Elite 2 (Frontier)	£29
Eye of Beholder Tri	£26
F117A	£27
F15 III	£27
Fantasy Empires	£25
Fatty Bear	£19
Gabriel Knight	£29
Gateway 2	£25
Goblins 3	£31
Golden Immortal	£19
Graham Souness Soccer	£11
Great Naval Battles	£25
HellCab	£43
HistoryLine	£24
Horde	£43
Humans 1 & 2	£24
Inca 2	£22
Indiana Jones Fate of Atlantis	£25
International Tennis	£11
Iron Helix	£20
JourneyMan Project	£24
Jurrasic Park	£24
Just Grandma & Me	£25
Jutland	£33
Kings Quest 5	£16
Kings Quest 6	£17
Labyrinth of Time	£25
Lands of Lore	£31
Laura Bow 2 (Aamon Ra)	£21
Lawnmower Man	£30
Legend of Kyrandia	£29
Leisure Suit Larry 6	£30
Lemmings/Oh no More	£25
Loom	£13
Lord of the Rings	£27
Lost in Time	£31
Lovers Guide	£22
Mad Dog McCree	£27
Mantis	£18
Microcosm	£32
Monkey Island	£13
Myst	£38
Peter Pan	£25
Police Quest IV	£30
Protostar	£24
Putt Putt on Parade	£19
Putt Putt's Fun Pack	£25
Quantum Gate	£19
Rebel Assault	£21
Return of the Phantom	£20
Return to Zork	£19
Rise of the Robots	£29
Sam & Max	£27
Scrabble Deluxe	£25
Secret Weapons of the Luftwaffe	£13
Shadow Caster	£25
Sherlock Holmes 1	£13
Sherlock Holmes 2	£14
Sherlock Holmes 3	£24
Space Quest 4	£20
Sports Best	£13
Strike Commander	£25
TFX	£19
Winter/Summer Challenge	£17
Who Shot Johnny Rock?	£30

CD ROM GENERAL

Animals	£13
Art Gallery (Microsoft)	£37
Beethoven (Microsoft)	£37
CIA World Fact Book	£13
CIA World Tour	£13
Cinemania 1994 (Microsoft)	£34
Creepy Crawlies	£32
Cute & Cuddlies	£33
Desert Storm	£13
Design Works	£27
Dinosaurs (MDI)	£38
Dinosaurs (Microsoft)	£36
Encarta 94 (Microsoft)	£64
Family Doctor	£17
Great Cities of the World 1or2	£14
Groliers Encyclopedia v6.0	£30
Guiness Disc of Records	£15
Hackers Chronicle	£21
London	£27
Mavis Beacon Teaches Typing	£13
Mayo Clinic	£15
Minerva 3	£12
Minerva 4	£14
Minerva 5	£17
Timetable: (3 different- each)	£13
World Atlas v4.0	£15

Lab-top PC
Call for
details

The MINT 486 Range

"Genuine Intel 486 CPU's for less than the price of a typical 386sx"

The Mint 486 range, so versatile you need never look back.

All Mint motherboards can easily be upgraded to a more powerful processor.

Now you can afford 486 power, with technical back-up and a quality program that is the envy of the PC industry Mint gives you a distinct advantage.

The Mint 486 range offers the best value for money in the UK.

All this plus our reputation for high product quality technical expertise and lifetime customer support.

The Mint 486 range, setting standards other computer companies can only talk about.

NOVELL
Authorised Dealer

14 Day no-risk guarantee

To ensure your complete satisfaction we offer a 14 day, "no question" absolute money-back guarantee.

Orders can be placed by Visa, Mastercard, Access or by authorised credit account.

Access VISA

FREE of Charge!

VESA Local Bus Motherboard Pentium upgradable!

	£649	£799	£999
Mint Model	Mint 486sx-33	Mint 486dx-33	Mint 486dx2-66
Upgradable to	486-DX2-66	486-DX2-66	486-DX2-66
Main Memory	4Mb	4Mb	4Mb
Cache Memory	8k (internal)	8k (internal)	8k (internal)
Video RAM	256k	256k	256k
Colour Monitor	14" SVGA	14" SVGA	14" SVGA
Hard Disk	170Mb	170Mb	170Mb
Ser/Par Port	2/1	2/1	2/1
Keyboard	UK 102	UK 102	UK 102
PSU	200w	200w	200w
Floppy Drive	3.5" 1.44Mb	3.5" 1.44Mb	3.5" 1.44Mb

CALL FOR UPGRADES
Multi-Media PC Now Available – Call for Prices

MINT

R&D
TECHNOLOGY LTD

Unit 3 The Metro Centre,
Britannia Way, Park Royal,
London NW10 7PR

081-965 5151

Prices subject to fluctuation without prior notice. Please add VAT + carriage to price.
All machines come with DOS 5.0.

Surcharge on credit card transactions

Edited by Wayne Williams

newsLINE

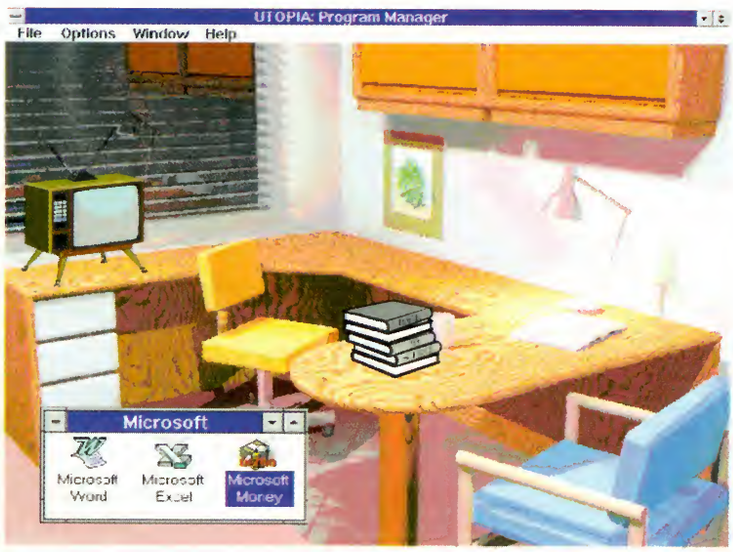
Utopia for Windows?

MICROSOFT are refusing to comment on the rumours that they are currently working on a new interface designed to make using Windows a more attractive proposition for newcomers.

The project, code-named Utopia, is reported to be based around an on-screen image of a home office which will allow users to run individual programs simply by clicking on the relevant section of the picture.

By using this method files could be accessed through the action of opening a filing cabinet, clips of video viewed by turning on a television set and unwanted items removed by dropping them into a wastepaper basket.

American sources claim that the mythical new interface, which has reputedly been designed to sit comfortably on top of both Windows 3.1 and the forthcoming Chicago operating system (see *Home Future* page 29), will most likely be officially unveiled at the Windows World show in Atlanta. If this is the case then a world-wide launch would follow around November.



Utopia could look like this. Then again...

Despite the persistent, highly detailed rumours Microsoft remain tight-lipped about the whole thing, declining either to confirm or deny the story, a stand which has led to further speculation. Should Utopia prove to be a reality it will raise the question of exactly why it was developed to run on top of Chicago, if, as Microsoft report, the next generation of Windows really does have a new interface vastly superior to anything seen so far.

Pearson buy Software Toolworks

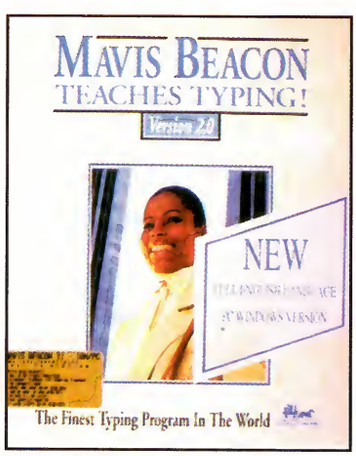
PEARSON plc recently announced that their US holding company have acquired Software Toolworks in a move designed to take the media group into the growing edutainment and infotainment market.

Lord Blakenham, the chairman of Pearson explained the acquisition, saying, "Software Toolworks represents a marvellous opportunity not only to buy an attractive stake in the market for family entertainment software, but also to bring on board some richly talented people whose skills I believe will make a difference to Pearson in many areas of our growing media business".

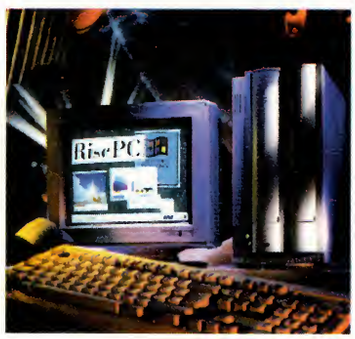
For Software Toolworks this merger will bring about some undoubted advantages. Not least will be the access to a realm of creative material based on copyrights held elsewhere in the group.

Pearson own a variety of top companies, including Thames Television, Penguin Books and the Financial Times, as well as significant shares in BSkyB and The Economist among others.

The move will also greatly improve Software Toolworks existing distribution network, particular in the edutainment field where they are expected to rely heavily on the strength of fellow subsidiary Longman who are famed for their educational range of school and college reference books.



One of Software Toolworks most famous creations



Acorn set to attack the PC market

New Acorn PC

ACORN Computers have launched a new family of 32-bit RISC based PCs, which will allow users to run an Intel or comparable processor alongside the main ARM610 chip, automatically sharing all of the machine's memory, input and output facilities.

The first of these *secondary* processors is a 25/33 MHz 486SX card, including built in Dos and Windows, which will enable the machine to act like an ordinary 486 PC, whilst utilising Acorn's true 24-bit colour system to offer SVGA and up to 16 million colours as standard. Pentium type processors are already being planned for the future.

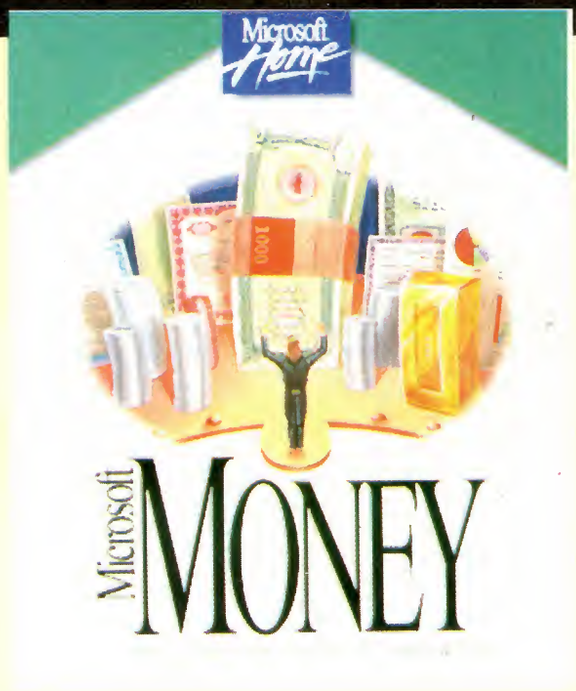
According to Acorn the new RISC PC will be compatible with over 90 percent of existing RISC OS software – around 3,000 titles in total – and has been produced in a move designed to maintain the company's educational stronghold. It will also position them for a forthcoming attack on the multimedia for business market, their latest target area.

Prices for the base model which comes with 2Mb ram and a 210Mb hard disk will start from £1468, whilst adding a standard 486 second processor will set you back a further £116.

Further details on the RISC PC from Acorn on 0223 254254.

PC HOME MEGADISK OFFER

Microsoft Money 3.0



Everything you need to take control of your finances - for only £23.44 (inc VAT)

Microsoft Money 3.0 for Windows provides everything needed to take control of your finances quickly – including a complete set of tools that make it easy to manage your money, make sound financial decisions and plan for the future.

Subscribers extra saving £5

Major New Product Features

- ★ Investment management - shares and savings
- ★ Financial planning made easy
- ★ Enhanced reporting facilities

Get started quickly and easily

- ★ Automatic set-up gets you ready to go in just minutes
- ★ Cue cards guide you through your first transactions
- ★ On-line Help provides extensive assistance when you need it
- ★ Import and export Quicken ®files in just one step

Manage your money effectively with a complete set of financial tools

- ★ Simplify savings and retirement planning, mortgage comparisons and loan evaluation.
- ★ AutoBudget helps you establish a budget you can stick to
- ★ AutoReconcile balances your accounts automatically.
- ★ SmartFill and SuperSmartFil save you data-entry time by remembering and completing transactions for you
- ★ Future Transactions prompts you to make payments when they are due

Maximise your financial control

- ★ Numerous reports, charts and graphs keep you up to date with your finances.
- ★ Multiple investment-tracking features help you follow the performance of your portfolio

PRIORITY ORDER FORM

Please send me a copy of Microsoft Money 3.0 for Windows

UK Subscriber	*UK Reader*	*Overseas Subscriber*	*Overseas Reader*
☐ £20.57	☐ £26.39	☐ £18.95	☐ £23.90

To claim the subscriber price you msut quote your subscriber number_____

Total price includes VAT (UK only) plus p&p of £2.95 (UK) and £3.95 (Overseas)

For payment by cheque

☐ Cheque enclosed made payable to Europress Publications Ltd

For payment by credit card

☐ Please debit my credit card Signature _____

☐☐☐☐ ☐☐☐☐ ☐☐☐☐ ☐☐☐☐ Expiry date ☐☐/☐☐

Please mail to:

Name .....

Address.....

.....

Postcode .....Tel .....

Please send the completed coupon to:
Microsoft Money Offer, Europress Direct, PO Box 2, Ellesmere Port England L65 3EB

YOU CAN ALSO BY PHONE ON 051 357 1275.
Or by FAX: 051 357 2813

Allow 28 days for delivery

☐ *If you do not want to be informed of the latest technological releases – please tick this box*

newsLINE

PC plays 3DO

CREATIVE Technology, have signed a one year exclusive deal with the licensees of the 3DO super console to produce a card that will allow PC owners run its software on their machines.

The 3DO, which was developed by a company led by Electronic Arts founder Trip Hawkins, was hyped as being the next thing when it was launched in the States. However, a succession of lacklustre software hasn't so far done the machine justice and sales failed to live up to expectations.

For this reason Creative are understandably cagey about giving a UK release date for the card, preferring to watch how well the console does when it is released in this country – in the Autumn, before committing themselves. "It's very much a case of wait and see", said a Creative Labs spokesman. Further details on the card can be had by calling 0743 248590.

3DO technology is set to be available to PC users

Bill's book

THE Penguin Group recently announced that they have acquired the rights to a publication currently being written by Microsoft's celebrated chairman Bill Gates.

The book, which is as yet untitled, aims to focus on the future of the information revolution and is being co-written by Microsoft's Dr Nathan Myhrvold and Pulitzer Prize winning journalist Peter Tinearson. A share of the proceeds from the venture will be donated to two charitable concerns, one on either side of the Atlantic.

The book, which will be published internationally by Viking, is expected to hit the streets in hardback around November, with a professional/educational edition and audio cassette version planned for a later date.

CompuServe up to speed

UK USERS of the on-line service CompuServe will now be able to access and download at up to 50 per cent faster following the introduction of a new 14,400 bits per second (BPS) service.

Launched on CompuServe's London node, with plans to extend the service to Munich and Paris later in the year, the new high speed facility will allow members to take full advantage of high-speed modems.

Andrew Gray, CompuServe's general manager, said of the move: "The provision of this new high-speed service is part of our ongoing commitment to our customers. It further enhances our service in the UK and so maintains our position as the leading providers of online services world-wide".

The price for this new service will remain fixed at the existing rate of approximately £6.40 an hour, for the foreseeable future at least. Further details can be obtained by contacting CompuServe on 0734 391064.

Prime time exposure

AFTER years of virtually being totally ignored by the television and radio stations, computer enthusiasts have two new programmes aimed at them.

Radio Five's The Big Byte goes out at 12.15pm on Sundays, while The Net is transmitted every Wednesday evening on BBC2 at 8.00pm.

The latter covers PCs as well as other computer and console types, with a strong emphasis on comms.

The Big Byte also covers all formats, although the show is primarily aimed at beginners and in their words "concentrates on applications – and how they affect people's lives, rather than the hardware".

We'll be taking a closer look at what the programmes have to offer in the next issue of *PC HOME*.

FASTER WORDSTAR

SOFTKEY International have launched version 2.0 of WordStar for Windows. Aimed at the SOHO market place, the latest version is described as being considerably faster than the original, with a greatly improved look and feel.

The addition of features such as drag and drop, an enhanced spell checker and multi-document handling will, Softkey hope, bring the program more in line with what other word-processing packages are offering, but at a greatly reduced introductory offer price of £59.

We'll be bringing you a full review of the package next month, but in the meantime interested readers should call Softkey direct on 081-789 2000.

Tree time

JURASSIC Art producers, the Roderick Manhattan Group have announced a new genealogy program for Windows called Family Tree Maker.

Designed to allow the user to create Ancestor and Descendant trees in more than 10 different styles, and produce group sheets and individual summaries, the program can cater for up to 1 million relatives and offer up to 15 pages of text on each individual.

On sale now, Family Tree Maker for Windows costs £49 and should be available from most good computer stores.

newsLINE

IN BRIEF

CD wrong

SOME major names in the software industry are set to lose thousands after a cover promotion with a magazine in Germany went horrendously wrong.

Software vendors were invited by the publication to put encrypted versions of their products on their CD-Rom coverdisk. By giving credit card details over the phone, readers could gain passwords to access the code.

However, within a few days of the magazine going on sale, hackers had cracked the codes and made their methods public knowledge.

Those who participated in the venture are believed to include Microsoft with their full Office suite, Lotus and Corel.

Northampton world

PC WORLD are to open their eighth computer superstore in Northampton by mid-May. The 20,000sq ft store, offering over 5000 products will be located on the Nene Valley Retail Park, Northampton, and include a business and technical centre. Further details from PC World on 071-499 3494.

Silica stores

SILICA are launching a new nationwide chain of computer retail stores designed to offer a mix of home and office computer products and cater for a range of people from new users and families to dedicated games players and computing experts.

Twenty outlets are planned in total, starting with Silica's flagship London store which will be situated on the third floor of Debenhams' Oxford Street premises and offer futuristic styling, video walls, demo pods and lighting displays.

Free upgrade

CUSTOMERS who buy a hard drive, monitor, video card, CD-Rom or any of a variety of other hardware from Atomstyle can now have the upgrade performed labour-free as part of a special offer. Interested readers should phone either 081-801 1838 or 0532 442767 for further details.

Talk to your PC

ALPS Electric are to introduce a new speech recognition system for Windows designed to replace multiple keystrokes and mouse clicks with the spoken word. Initially the product will be available in English or German, but further European language versions are scheduled to follow later in the year.

The product includes an initial vocabulary of 600 words but can be expanded to meet individual requirements and is limited only by hard disk size.

No firm price has been set for the product as yet but a spokesman for the company said that it would be a competitive figure. Details from Alps on 010-353 29 70677

Rollerball

LOGITECH have introduced a new entry level trackerball mouse called the Pilot Trackball. Designed to take up a minimum of desk space, the device comes with symmetrical buttons on either side of the control ball to allow it to be easily used by both left and right handers alike.

The Pilot Trackball comes bundled with the usual MouseWare Lite software and will retail for approximately £39.

Further information on this and other Logitech products can be obtained by calling the company direct on 0344 891313.

LETHAL WEAPON

SUPER Warrior, QS-201, is the latest joystick to come out of the QuickShot stable. Aimed at PC pilots, it comes with four fire buttons, a non-skid rubber handle pad and a built in throttle control which, say QuickShot, enables that extra thrust you need to lose the enemy. Bundled with test and calibration software, the new joystick will retail for £19.99.

Flight sim fanatics can find out more about the Super Warrior by calling QuickShot on 081-365 1993.

New Lazer deal

DEVON based Lazer Distribution have just signed a contract to sell a selection of Canadian produced CD-Rom titles in the UK.

The Microforum range which includes Teach Yourself Music, The Ultimate Trivia CD and several shareware compilations such as Super Arcade Games – incorporating Id's classic Doom! – are set to retail from £24.99.

Lazer's product manager Shaun Morris said of the new product line "Many other Shareware CD-Roms are poorly presented within a jewel case, rarely with an inlay card and no menu program. The Microforum range is attractively boxed and has an excellent user friendly menu system".

Microforum products will be widely available through most major retailers in the near future but in the meantime details on the range can be obtained by calling Lazer direct on 0404 46660.

CD LEADERS

CD ROM DRIVES

PRICE BLASTERS!

TRIPLE AND DOUBLE SPEED OPTIONS

NEC TRIPLE SPEED £279
195ms scsi 3x CDR 510
With interface **£299** • With 16 bit I/F **£339**

NEC TRIPLE SPEED £315
195ms scsi 3xi CDR 500
With interface **£335** • With 16 bit I/F **£375**

NEC DOUBLE SPEED £136
320ms scsi CDR-210
With interface **£155** • With 16 bit I/F **£195**

CD-ROM KITS WITH SOUNDBLASTER 16

NEC TRIPLE SPEED £479
• NEC CD-ROM 510 • SOUNDBLASTER 16 SCSI–2
• SOUNDBLASTER SOFTWARE • **FREE** HEADPHONES
• **FREE** SPEAKERS • **FREE** MICROPHONE
• REBEL ASSAULT OR 7th GUEST • **FOR CDR 500 ADD £36**

NEC DOUBLE SPEED £329
• NEC CD ROM 210 • SOUNDBLASTER 16 SCSI–2
• SOUNDBLASTER SOFTWARE • **FREE** HEADPHONES
• **FREE** SPEAKERS • **FREE** MICROPHONE
• REBEL ASSAULT OF 7th GUEST

CD ROM KITS WITH PRO-SONIC (JAZZ) 16 SOUNDCARD

NEC TRIPLE SPEED £399
• CD ROM 510 • PRO SONIC 16 (JAZZ) • CABLES
• **FREE** SPEAKERS • **FREE** HEADPHONES
• **FREE** MICROPHONES • **FOR CDR500 ADD £36**

NEC DOUBLE SPEED £239
• CD-ROM 210 • PRO-SONIC16 (JAZZ) • CABLES
• **FREE** SPEAKERS • **FREE** MICROPHONE
• **FREE** HEADPHONES

PANASONIC CD ROM OPTIONS

PANASONIC 563B
DOUBLE SPEED 320ms Digital Output
• BARE DRIVE **£120** • WITH INTERFACE **£139**
• INTERFACE **£20**

PANASONIC 563B £259
DOUBLE SPEED
• **PANASONIC 563B CD ROM** • SOUNDBLASTER 16 BASIC
• HEADPHONES • SPEAKERS • MICROPHONES
• REBEL ASSAULT OR 7th GUEST

PANASONIC 563 DOUBLE SPEED GAMES BONANZA EXTRA VALUE PACK £269
INCLUDES
• **PANASONIC 563B CD ROM AND INTERFACE**
• GROLIERS 6 • IRON HELIX • RETURN TO ZORK • STRIKE COMMANDER • MAD DOG McCREE • STARS WARS CHESS
• WING COMMANDER 11 • 7th GUEST • REBEL ASSAULT

CD-ROM SOFTWARE

• REBEL ASSAULT	£29	• KODAK CD	£15
• 7th GUEST	£25	• TFX	£22
• 7th GUEST/DUNE	£33	• LAWN MOWERMAN	£35
• MAD DOG McCREE	£30	• COMPTONS 94	£85
• ALONE IN THE DARK	£37	• ENCARTA	£77
• INDIANA JONES	£28	• MEGA RACE	£30
• SAM AND MAX	£30	• 3D DINOSAURS	£48
• COMPUTER WORKS	POA	• DOCTOR T's	POA
• CLIP ART PUBLISHER MEGA PACK			£99

MANY MORE TITLES AVAILABLE PLEASE PHONE FOR OUR FREE CATALOGUE!

WHY CHOOSE SCSI?

SCSI (Small computer standard interface) is fast and powerful. Its wide acceptance provides interchangeability, between computers and drives, ensuring longer product life. SCSI interfaces though generally more expensive, allow up to 7 other devices access to one interface giving true flexibility.

SCSI INTERFACES • SOUNDCARDS • AUDIO CABLES
JOYSTICKS & CD CADDIES AVAILABLE ON REQUEST!

SALES HOTLINE

0483 755030 • FAX 0483 756078

HELPLINE 0483 756813

ACCESS VISA AND AMEX ALL PRICES EXCLUDE VAT AND DELIVERY

DISCOVERY PACK £299
CREATIVE LABS
• PANASONIC CR563 • SOUNDBLASTER 16 SOUNDCARD
• SPEAKER AND CABLE • SOUNDCARD SOFTWARE
• 5 EDUCATIONAL TITLES

IF YOU NEED HELP OR ADVICE ON UPGRADING YOUR PC. PLEASE CALL THE MULTIMEDIA HELP-LINE. THIS IS A FREE SERVICE WITH NO OBLIGATION TO BUY
0483 756813 PLEASE PHONE OR FAX FOR FULL PRODUCT RANGE CDL, WALTHAM HOUSE, GROVE ROAD, WOKING, SURREY, GU21 5JB.

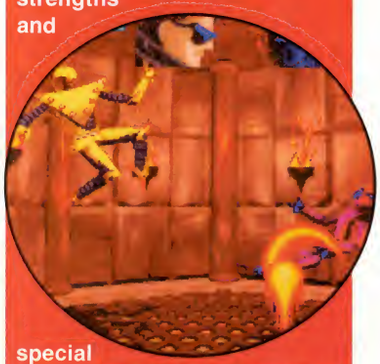
GAMESnews

Edited by Andy Shaw

IN BRIEF

Rise or fall?

RISE of the Robots isn't the only robot fighting game contending for the title of heavy metal champion this year. One Must Fall 2097 pits 11 robots with various strengths and



special moves against one another in a variety of different arenas.

The robots which are made up of 256 colour polygons, have a variety of attack combinations and special moves to outwit and destroy the enemy.

So far we've just seen screen shots, but these look pretty hot so let's hope it plays well too. Epic are releasing One Must Fall in June as shareware with two arenas and the full game with a strategy book at the same time.

Flying high

NEWS comes this month of the soar-away success of version five of Microsoft's Flight Simulator.

According to a Microsoft spokesperson it has sold 115,000 copies to date, a phenomenal achievement for an PC entertainment product.

Microsoft also announced that their Entertainment Packs 1-4 are to be discontinued. The best games from each are to be put in a single package. Contact the Gates empire on at 0734 270001 for more info.

HOLLYWOOD HORDE

TELEVISION and interactive gaming are taking more tentative steps towards one another in The Horde, due for release over here next month by US Gold.

The game features Kirk Cameron from the American sitcom Growing Pains as Chauncey – the main hero, as well as a number of other stars from TV shows and films including Quantum Leap, Robocop, Total Recall and The Lawnmower Man. The live action sequences are being produced by Mckenzie Waggaman and Weaver who have won an Emmy Award twice for previous productions.

Gameplay is set firmly between arcade and strategy. As Chauncey you must attempt to save your magical medieval homeland from a ravenous horde of bizarre beasties, intent on destruction by consumption. Look out for a review in next month's *PC HOME*. Alternatively call 021-606 1800 and tell US Gold how hungry you are.

The Horde making a meal of Chauncey's cattle

DOOM SCOOPS AWARDS

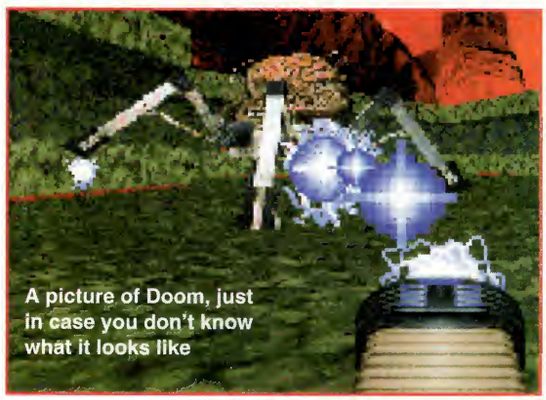
THE EUROPEAN Computer Trade Show (full report on page 115) has given out its annual awards, based on consumer and magazine opinion from across Europe.

Nobody was particularly surprised that iD Software's Doom scooped three of the awards for Game Innovation, Computer Game of the Year and Overall Game of the Year. LucasArts also proved their worth winning Developer of the Year, Best CD Game for Rebel Assault and Japanese Game of the Year with X-Wing.

Bullfrog's Syndicate claimed Most Original Game and German Game of the Year, while Virgin Interactive Entertainment pulled off Software Publisher of the Year.

The BBC's Alive and Kicking program had their own award which went to Gametek's Frontier: Elite 2, and lastly there's Maxis' Sim City 2000 which claimed the title of Scandinavian Game of the Year. Interestingly enough, iD Software weren't present to receive their awards, so Mindscape stepped in to collect on their behalf. Already distributing the full version of Wolfenstein 3D, rumours spread rapidly about whether this particular company might get the rights to distribute the commercial version of Doom.

Mindscape refused to comment when we questioned them, so we'll take that as a yes then shall we?



A picture of Doom, just in case you don't know what it looks like

SPACED OUT

ARCADE favourite Space Ace is set to be released on the PC in July. Using classic cell animation in an interactive game was first done on Dragon's Lair out this month (see our review on page 130). Space Ace will similarly be available without the need for special video cards, yet still containing the full motion animation of the original. Space Ace will retail at £39.99 and is being released by Epic. Their com-link can be interfaced on 0922 55852.

The world's best-selling DTP software essentials are here!

Get PageMaker Classic for only £59.95!

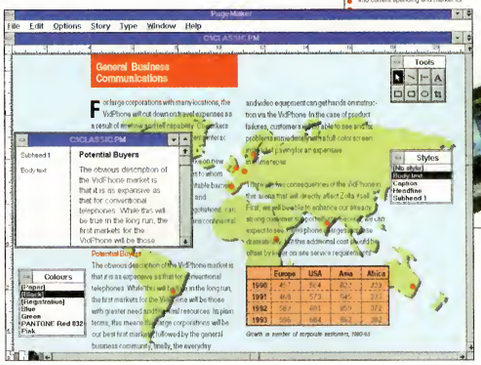
Aldus, the company who invented desktop publishing, now offers you two versions of the world's best-selling page layout software: Aldus PageMaker® 5.0 for professional designers requiring powerful high-end features – and now Aldus PageMaker® Classic for Windows™, based on the award-winning PageMaker technology.

PageMaker Classic is a reliable, easy-to-use package containing all the basic tools that are essential for small business, home and educational users to create professional quality documents. And it costs only £59.95!

Classic ease of use!

MICROSOFT WINDOWS COMPATIBLE

PageMaker Classic sets the standards others follow when it comes to intuitive ease of use – so writing, designing and producing documents with PageMaker Classic will come naturally. An online context-sensitive Help system is a mouse click away, and a selection of predesigned layout templates along with the 'Undo' command will help you as you work.



Text, graphics and illustrations – it's easy to lay out a document in PageMaker Classic.

Classic word processing features!

PageMaker Classic has its own powerful Story Editor™, giving you all the word processing tools you need. Type new copy directly in your PageMaker Classic document, or import it from your favourite word processor. There is also a built-in spelling checker and dictionaries – essential for proofreading.

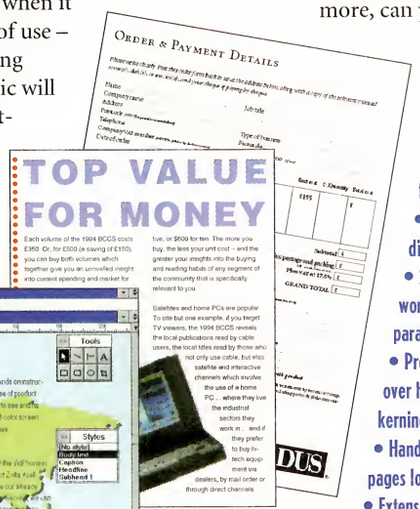
Classic large document handling!

PageMaker Classic can handle up to 999 text-intensive pages in a single document. You can lay text and graphics out across facing pages, and interrupt text autoflow if need be. And graphics can be stored inside or outside the file to control document size.

If you're writing a book or report with several chapters or sections, PageMaker Classic lets you link documents together. Then it automatically renumbers pages and chapters, and creates a common index and table of contents for the merged document to save you time and trouble.

Classic DTP capabilities!

For high-quality newsletters, proposals, reports, books, manuals, catalogues, forms, business stationery, end-of-term theses and more, can you do without the essential DTP features built into PageMaker Classic?



- Story Editor™ for fast text entry and editing
- Spell checker with dictionaries built in
- Search and replace words, characters and paragraph styles
- Precise typographical control over hyphenation, tracking, kerning and tabbing
- Handles documents up to 999 pages long
- Extensive page layout control with a range of import/export file types

Classic award-winning technology!

PC MAGAZINE Best desktop publishing program, 1992

PageMaker Classic is based on renowned PageMaker software which has won more awards than any other DTP software – and is constantly emulated by other DTP software manufacturers. It's the world's bestseller, used in over 50 countries, in 20 languages by more than 1 million people.

PC WORLD AWARD 1993 · COMPUTER SHOPPER BEST BUY · 1992 BYTE Readers' Choice, Best Desktop Publishing Software · Readers' Choice 100 1992 Desktop Publishing

Classic FREE extras!

There are no hidden extras – with PageMaker Classic you get all the essentials absolutely FREE of charge:

FREE ADOBE TYPE MANAGER!
FREE 133 B&W CLIPART IMAGES!
FREE TEMPLATES!
FREE TABLE EDITOR!
FREE QUARTERLY ALDUS MAGAZINE!

CLASSIC 60-DAY MONEY-BACK GUARANTEE!

60

PageMaker Classic comes with a no-risk, 60-day money-back guarantee, so you've got nothing to lose! If you are not fully satisfied with PageMaker Classic, return it to the point of purchase within 60 days and we'll refund your money in full, no questions asked.

Order PageMaker Classic now by calling 031 458 4747. Alternatively, fax the coupon to 031 453 6667, or post it to Aldus UK, Aldus House, West One Business Park, 5 Mid New Cultins, Edinburgh EH11 4DU.

I want PageMaker Classic right now!

PCH 6/94

☐ PageMaker Classic for Windows at only £77.39 (inc. £6.95 p&p and £10.49 VAT)

Name .....
Delivery address .....
.....
.....
Postcode .....
Telephone .....

Please charge my credit card:
☐ Visa ☐ MasterCard ☐ EuroCard ☐ Access

Number .....
Expiry date .....
Cardholder's name .....
Card address (if different from above) .....
.....
.....
Postcode .....

VISA · EUROCARD · MasterCard · Access

If paying by cheque, please make it payable to Aldus UK Ltd

PC disk format supplied is 3½". A VAT invoice is delivered with the product.

OFFER ENDS JUNE 30, 1994. Unless otherwise stated, prices quoted are ex VAT and shipping, and are valid only in the UK and Ireland. All trademarks and registered trademarks acknowledged. PageMaker Classic is based on Aldus PageMaker 4.0 technology.

60-day money-back guarantee!
Order PageMaker Classic right now:

031 458 4747

Only Aldus can do all this

Collection • Fetch • FreeHand • InfoPublisher • IntelliDraw • Personal Press • Persuasion • PhotoStyler • PressWise • SuperPaint • TrapWise • Aldus University

ALDUS®

and your PC can help you gain top marks in the GCSE exams

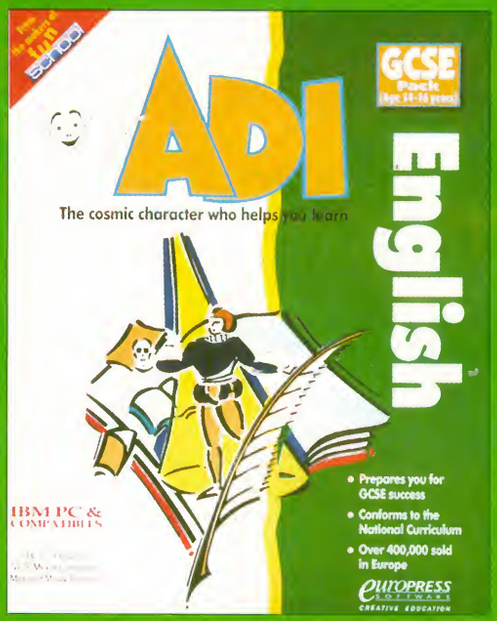
Banish GCSE worries with the help of these best-selling packages from the ADI range of tried and tested educational software.

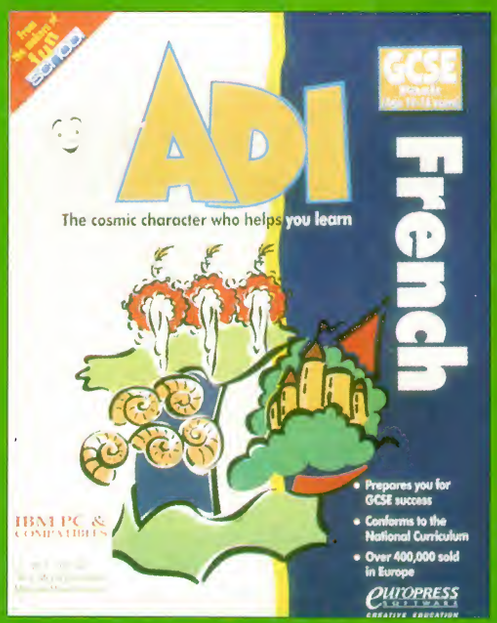
Prepared by a team of experienced teachers to meet the exacting requirements of the National Curriculum, they contain progressive exercises that encourage the pupils's active involvement.

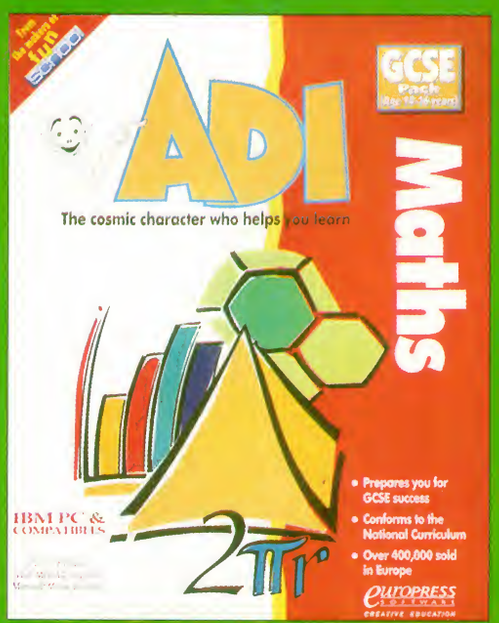
Throughout, ADI himself – the smart extra-terrestrial guide – offers help and friendly advice, monitors the pupil's progress and produces detailed reports. He even provides a host of fun games games for relaxation and reward after studies are over!

ADI's three GCSE packages, covering Maths, English and French, are available from any of the dealers listed below. Or call Europress Software on 0625 859333.

europress SOFTWARE







	AGES	Primary School 4-5	Primary School 6-7	Secondary School 11-12	Secondary School 12-13	Secondary School 13-14	Secondary School 14-16
ADI	Maths			✔	✔	✔	✔
	English			✔	✔	✔	✔
	French			✔	✔	✔	✔
ADI Junior	Counting 4/5	✔					
	Reading 4/5	✔					
	Counting 6/7		✔				
	Reading 6/7		✔				

NORTH WEST **Ashton under Lyne:** VU Data (061 339 0326) **Bolton:** Bolton Computer Centre (0204 841937) **Bolton:** Computer World UK (0204 495011) **Burnley:** Burnley Computer Centre (0282 31108) **Lancaster:** Castle Computers (0524 61133) **Manchester (Arndale Centre):** Computer Software Centre (061 224 3375) **Stockport:** VU Data (061 477 6739) **MIDLANDS AND SOUTH WALES** **Birmingham:** Mr Disk (021 643 6222) **Coventry:** Coventry Computer Centre (0203 223081) **Cwmbran:** Soft Centre (0633 868131) **Leamington Spa:** Spa Computers (0926 337648) **Nottingham:** ST Electronics (0602 632467) **Stoke on Trent:** Town Computers (0782 287540) **Swansea:** Mertec (0792 467980) **SOUTH EAST** **Brighton:** Gamer (0273 728681) **Canterbury:** Computer World (0227 766788) **Ealing Broadway:** Barkmans (081 840 4114) **Ipswich:** Bits'n'Bytes (0473 219961) **Kingston:** 5 – 12 Software (081 974 8900) **Kingston upon Thames:** Barkmans (081 546 5941) **Leigh on Sea:** Platinum (0268 778909) **London:** Datel Electronics (071 580 6460) **Milton Keynes:** Softly (0908 670620) **St Albans:** Hobbyte (0727 856005) **Swanley:** **Kent:** Swanley Computers (0322 613937) **Thurrock:** Database (0708 890976) **The Plaza: London W1:** Input (071 636 2666) **Worthing:** Worthing Computers (0903 230940) **NORTH EAST** **Gateshead:** Maughan Micros (091 493 2308) **Hull:** Tomorrows World (0482 24887) **Stockton:** Topsoft (0642 670503). Calculus stores please ring head office on 0543 418666 for your nearest store. Next Level please ring head office on 0532 458600 for your nearest store. Comtazia please ring head office on 0384 261698 for your nearest store Game Ltd please ring head office on 081 974 1555 for your nearest store

RUMOURS FROM CHICAGO

Windows 4.0 is on the way. Alex France sifts through the gossip

MICROSOFT like their code-names. In fact, sometimes it is the only thing about a new program that they will tell you. A classic case of this tight-lipped policy is the way the new version of Windows was treated 12 months ago. Everyone knew that Chicago was its working title and that it would be a 32-bit operating system, but much of the rest was unsubstantiated rumour.

All this has changed, as now the Microsoft marketing machine has introduced Office 4.2 to the buying public, it is starting work on Windows 4.0 (aka Chicago). This is going to be the biggest computer event of the year, despite Apple's claims about the Power Macintosh.

Almost every PC sold comes with two pieces of software: MS-DOS (the operating system(and Windows (the working environment). There is no consumer choice involved in this, the computer manufacturers buy the programs from Microsoft and include them automatically with their machines.

Windows 4.0 is going to combine the functions of these two programs into one package, so that there will no longer be a need to supply the two separately. As it will be bundled with nearly every PC sold, within months of its release, Chicago will soon become the industry standard.

Desktop overhaul

FOR many users the most obvious change will be the complete redesign of the user interface. Familiar Windows components like Program Manager and File Manager will be replaced by a system that puts the emphasis on files and tasks, instead of applications.

When you want to work on a letter for instance, this will be done by opening the relevant file directly and not by first loading a wordprocessor. This is known as object orientation and Microsoft believe it will make desktop computing more accessible to new users.

A system toolbar will be available at all times, informing users which applications are already open and giving access to the Help facilities. This toolbar will also include a more powerful version of the Find command, currently found in File Manager, which is used to search for files by trying to find matches for user-defined criteria.

Anyone familiar with the Apple Macintosh may find Chicago closer to that machine's user interface, than the one currently offered by Windows 3.1.

The end of Dos

WINDOWS 4.0 will not need Dos as it will take control of what are thought of as the operating system duties. The importance of this difference is how it will affect the operation of Dos programs. Microsoft have been quoted as saying that they will run as well, if not better, than they do under Windows 3.1. This is not very reassuring as most Dos programs, especially games, run appalling while Windows is still loaded in the background.

The resulting overhaul of the PC games industry may be only slightly delayed by the inclusion of a special Dos mode in early versions of Windows 4.0. This will allow the system to operate as though the Windows code was not present.

However, Chicago does offer two major performance advantages over Windows 3.1: 32-bit operation and true multitasking. The first of these means that it should operate faster, particularly when using specifically designed 32-bit applications, many of which are already under development.

Multitasking allows the computer to handle more than one job at a time and with Chicago it will be much more secure than with existing versions of Windows. If one application misbehaves, any still active will continue unaffected.

This is achieved by setting up a separate *virtual machine* for each task – something of which the PC has been capable since the 386 was launched, but unavailable to most users until now.

The best piece of good news is that all this extra power should be available without any need to upgrade. Microsoft have stayed consistent to the claim that Chicago will run just as well on a 386 with 4Mb of memory, as Windows 3.1 does now.

● *Windows 4.0 will be available by the end of this year, probably priced at under £100. Microsoft's number is 0734 270001, but don't expect them to reveal anything!* PCH

INTRODUCING CHICAGO

HERE are some of the new features that should make an appearance in Windows 4.0.

● New desktop – a reworked layout based more on objects (files or jobs) than applications. May look more like the Macintosh system and IBM's O/S2 than Windows 3.1

● Plug and Play – system intended to allow the PC to be upgraded, and generally have bits added to it, without the user having to get involved with reconfiguring hardware and software

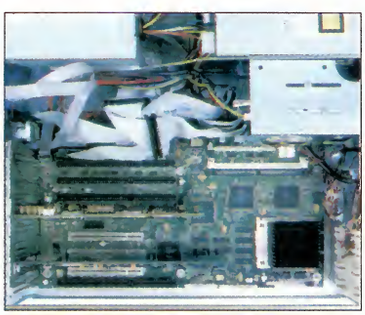
● 32-bit operating system – handles data in chunks twice as large as those used by Dos and Windows 3.1

● Multitasking – in theory two applications should be able to run completely independently of each other, so if one crashes the other should keep going unaffected. More accurately described as pre-emptive multitasking

● Long file names – Dos can only use an eight letter name with a three letter extension. So FILENAME.EXT could become FILE_USED_BY_CHICAGO.EXT

PLUG AND PLAY

THE PC's modular design has always been one of its strengths, but this has been largely negated by the complexity involved in adding new components to the existing hardware. Chicago promises to make adding those all important CD-Rom drives, sound and video cards, not to mention memory, easier by providing Plug and Play support.



Adding peripherals to your PC should become a lot easier

Adding these peripherals at the moment can involve spending hours changing jumper settings on expansion cards and reconfiguring software. Anyone who has used up an afternoon trying to get rid of an address or interrupt conflict after installing a CD-Rom drive, knows how bad this can be.

In theory Plug and Play should allow a computer's setup to be changed by simply adding the new component and then switching the machine back on.

Three elements are required to make a PC Plug and Play compatible:

● Specifically designed expansion cards, including sound cards, modems and CD-Rom interfaces

● PCI bus architecture – used by all Pentium PCs and an increasing number of 486s

● Specifically designed operating system – this is where Windows 4.0 comes in.

This makes the new operating system an essential component in what is probably the most important development the PC has had since Windows 3.0.

TOP MULTIMEDIA...

...An impressive range of Multimedia Products from the USA and Asia...

TopGrade Quality
Multimedia products from TopGrade use only the finest quality components. We have selected the top of the range Panasonic 562B Double-speed CD drive for our upgrade kits. The highly acclaimed software titles from Voyetra are included Free with our Golden Sound 16 bit Plus and DSP cards. All Golden Sound cards feature the YAMAHA OPL chip set for high performance sound production.

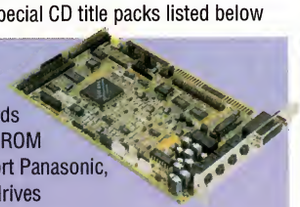
TopGrade Compatibility
All Golden Sound cards are compatible with:- Sound Blaster V2.0, Sound Blaster PRO, Adlib, MPC, Covex, Windows Sound System, Windows NT, General MIDI and IBM standard joystick.

Business Bundle **£439.99**
Panasonic 562B CD-ROM, Golden Sound PRO 16 DSP card, Powerful Stereo speakers, Stereo microphone, Photo-CD device driver, 20 Software titles from Voyetra, cables & connectors
Bundled CD-Titles
Select one of the special CD title packs listed below

Multimedia Pro Bundle £405.75
Panasonic 562B CD-ROM, Golden Sound PRO III card, Powerful stereo speakers, High quality microphone, Photo-CD device driver, 5 Software titles, cables & connectors
Bundled CD-Titles
Select one of the special CD title packs listed below

Budget Bundle **£339.99**
Panasonic 562B CD-ROM, Golden Sound PRO Deluxe card, Powerful stereo speakers, Photo-CD device driver, 5 Software titles, cables & connectors
Bundled CD-Titles
Select one of the special CD title packs listed below

Sound card Bundles



Golden Sound cards include 3 in 1 CD-ROM interface to support Panasonic, Sony & Mitsumi drives

Golden Sound PRO 16 Plus **£175.00**
Compare us with Soundblaster 16 ASP SCSI with Waveblaster Add-on!
TRUE 16 Bit Stereo sampling & playback, YAMAHA OPL4 WAVE TABLE, SCSI-2 CD-ROM interface, Midi/Game Port, Free Stereo microphone, FIFO buffering, AD PCM Compression, 20 software titles from Voyetra, 2 CD titles

Golden Sound PRO 16 DSP **£120.00**
Compare us with Soundblaster 16 ASP Multicd
TRUE 16 Bit Stereo sampling & playback, YAMAHA OPL3 Stereo FM chip, CD-ROM interface, Midi/Game Port, Free Stereo microphone, FIFO buffering, AD PCM Compression, 20 software titles from Voyetra

Golden Sound PRO I6 ES **£89.00**
Compare us with Soundblaster 16 Basic
TRUE 16 Bit Stereo sampling & playback, YAMAHA OPL3 Stereo FM chip, CD-ROM interface, Midi/Game Port, Free Stereo microphone, FIFO buffering, AD PCM Compression, 15 software titles

Golden Sound PRO III **£69.99**
Compare us with Soundblaster PRO Basic
Fully featured card including: 8 Bit Stereo sampling & playback, YAMAHA OPL3 Stereo FM chip, CD-ROM interface, Midi/Game Port, AD PCM Compression, 8 software titles

Golden Sound PRO Deluxe **£59.99**
Compare us with Soundblaster PRO Basic
Fully featured card including: 8 Bit Stereo sampling & playback, YAMAHA OPL2 Stereo FM chip, CD-ROM interface, Midi/Game Port, AD PCM Compression, 8 software titles

Multimedia add-ons

TopGrade Monitor Miser **£59.99**
Latest IT design to save you money! This simple to install device links between keyboard and monitor. It automatically powers off the monitor after a user specified time interval. The Monitor Miser will pay for itself as it can save up to 153 hours of electricity every week, or 7,956 hours a year!

Hi-Fi Stereo speakers **£53.50**
20/80W Amplifier, Hi-Fi 2 way stereo speaker, Base, Treble & Volume control, Designed for PC Digital signal

TopGrade CD-kit **£169.99**
Panasonic 562B CD-ROM, Golden Sound CD-ROM card. Installation s/w Cables & connectors
Other CD-ROM drives available

Golden Sound CD-ROM Card **£11.99**
CD-ROM interface supports, Panasonic, Sony & Mitsumi, Stereo Line-in with mixer and Line-out

Golden Sound Midi Kit + Midisoft recording session, 2 Game, 1 Midi in, 1 Midi out **£26.99**

Hi-Fi Stereo speakers 7 watt Base, Treble & Volume control **£22.00**

Hi-Fi Stereo speakers No AMP **£6.99**
Stereo Microphone **£8.99**
Microphone **£5.99**

Dealer/VAR enquiries welcome. Please call Newbury Office.

Prices exclude VAT and delivery.
Call Mon - Fri 9.00am - 5.00pm
Sat 10.00am - 2.00pm

VISA

Special CD Title Packs

A Starter pack worth over £150
SFX 300 sound effects, CD Games Pack II, Return to the Moon, Compton's Family Choice, USA Wars: Desert Storm, Loom

B Business pack worth over £150
MS Multimedia pack 1.0, Publish It 2.0 + 24 Clip art, Kodak Photo-CD + 24 Samples, The Best of Shareware, Int. Business & Econ. Atlas, 501 Sound waves V1

C Fun pack worth over £150
Interactive Storytime Vol 1, CD Fun House, XF5700 Mantis Fighter, Animal V1.0, Mario is Missing/World Atlas, Beauty and the Beast

D Education worth over £200
Great cities of the world 1, CMC The Family Doctor, Compton's Family Encyclopedia, World Atlas, US Atlas, Chessmaster 3000, Mavis Beacon teaches Typing

Please note that the CD Titles may differ from those shown. The CD Title packs are also sold separately, please call for prices.

Please send information pack to:

Name.....

.....

Address.....

.....

.....

Telephone.....

Newbury Head Office:
Phone 0635 278322
Fax 0635 278773

Swindon Office:
Phone 0488 72386

Bedford Office:
Phone 0234 273000
Fax 0234 352207

UK Head Office: Beechcroft, Harts Lane, Burghclere, Nr Newbury, Berkshire. RG15 9JN

TGM
TopGrade Multimedia

QUICKIES

The PC HOME team check out the best of the new hardware and software releases

Video Wizard

VVL'S Video Wizard is a pretty smart piece of kit. Made up of a plug in frame grabber and a little camera – around the size of a couple of matchboxes glued together – positioned on top of an equally small tripod, it's exactly the sort of gizmo that, while being completely useless in the practicality stakes, should provide you with hours of fun.

Getting the package up and running is incredibly simple – you plug the card into a spare 8-bit expansion socket, plug the camera into the card, load up the supplied PhotoFinish software and click on PreScan.

Provided you've remembered to take off the lens cap, a greyscale representation of whatever the camera is pointing at should appear on screen in glorious murky-vision™.

You can then adjust the brightness and contrast of the image, line up the camera so that the whole person or object you are trying to capture appears in the centre and click on Scan.

Hey presto, the image appears ready for you to mess around with and modify to your heart's content.

The software provided with the package offers a good range of photo retouching and editing effects which will hopefully allow you to turn the 350x350dpi image into something which borders on the vaguely professional. You can then save the end result in any standard graphic format.

Although it's certainly very good at what it does, the Video Wizard has to be one of the most misleadingly named products ever. Camera Wizard, or Image Wizard would be a better, more exact product description, because the one thing this piece of kit doesn't do is produce video.

On PreScan, while you're setting everything up, it updates the image every couple of seconds or so, depending on the speed of your PC of course, but scans are all done one at a time in a very deliberate fashion.

If anything the Video Wizard is a bit like having a Polaroid camera attached to your PC.

The quality produced with the camera is pretty good, and you can grab fairly decent images in varying light levels down to 5 lux.

However, since the framegrabber itself uses the standard CCIR-Pal format you can always plug your video or video camera into the socket instead.

You still won't get colour images though, as the Video Wizard is resolutely mono.

Although it's fun, at £234 the package is probably a touch expensive for just messing around with, but if you can find a use for the images it produces, I guess that it's well worth every penny.

Wayne Williams

Product	Video Wizard
Price	£234
Supplier	NovaTech
Tel	0705 664144
✔	Easy and fun to use
✘	Quite expensive, best on close up images
PCH Verdict	★★★★★☆

ScanMan PowerPage

ALTHOUGH relatively few home users have scanners it's probably the one device that most of us would love to own, if only we could afford one, or justify the cost.

The Logitech ScanMan PowerPage isn't, unfortunately, the mega cheap scanner that we've all been waiting for – at £586 it's a tad expensive. Nor is it a colour scanner, but since most home users probably have black and white printers that's not really a big drawback.

Okay, so if it's not colour and it's not incredibly cheap – why exactly should you be interested in it? Well for a start the PowerPage is nice and compact – it measures just 30.5 x 7 x 6.4cm with a scanning width of 21.6cm and more importantly it's extremely powerful.

It offers pretty much all the best features you'll find with a traditional flatbed, sheet fed or hand-scanner and it can also be used for copying, faxing and optical character recognition.

It is very simple to get up and running as it just plugs straight into your parallel printer port, so there's none of the usual messing around inside your PC.

All you have to do then is load up the software, which includes the FotoTouch Color image editing package, and start scanning.

Photos can be scanned at resolutions from 25 to 400 dots per inch in 256 shades of grey, although at the very highest resolutions the software takes an age to process it and you need a fair old whack of disk space and memory. It's definitely worth it though – the quality is superb.

You can save work in TIFF, JPEG, PCX, BMP and EPS formats. Obviously, with a basic graphics package like Graphics Workshop, you change the format to suit your needs.

Once scanned the FotoTouch software will let you edit the picture to your heart's content – you can even add some colour highlights – then automatically optimise it for the best output available through a printer.

The package also comes complete with WinFax and OmniPage Direct AnyFont OCR software so you can scan documents straight into a PC and, provided you've got a modem, fax them straight out again. The quality of scanned text, like photographs, is excellent.

Whether you are scanning full pages or odd-sized objects the procedure remains the same: Simply slide the item into the PowerPage feeder and it will do the rest.

If you are scanning a bound object such as a book, however, you need to remove the bottom of the scanner, place it on the page you want scanning, and its automatic motorised mode will do the rest. You don't even need to touch the machine.

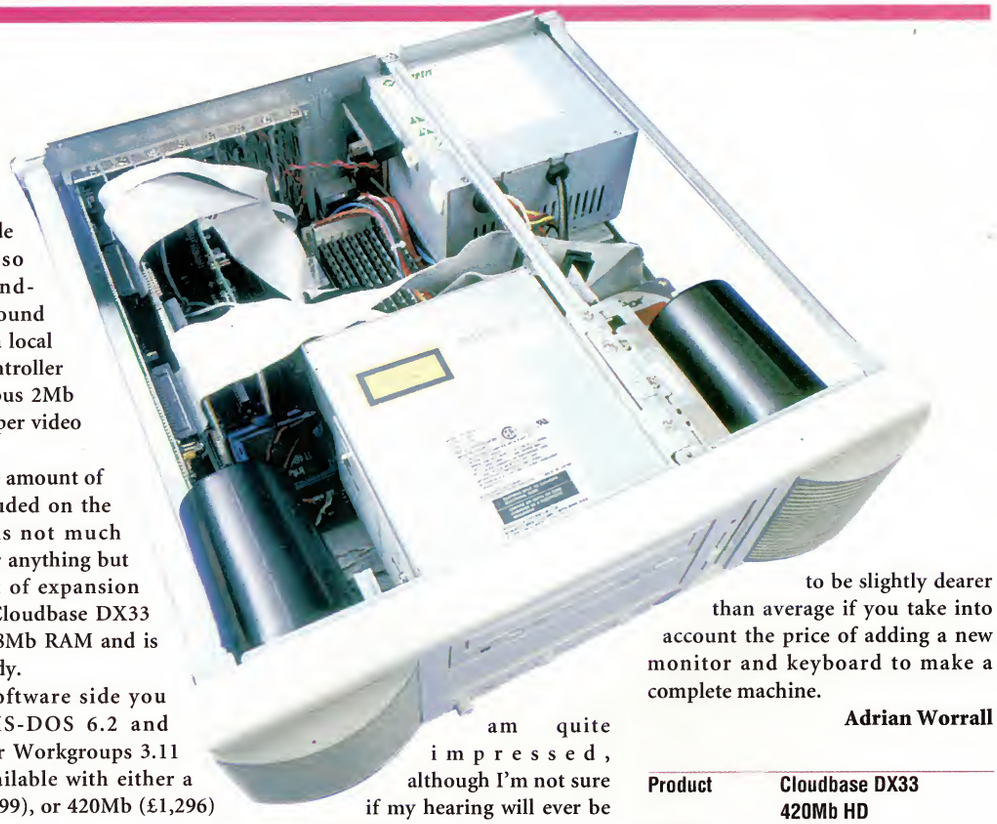
Another nice feature is that you can use PowerPage at any time even if you are in a completely different Windows application. Once you insert an item into the scanner, the PowerPage Control Centre automatically pops up. Simple.

Whether £586 to scan your own photos in for morphing and messing around with is a worthwhile investment I wouldn't like to say. But the strange thing about scanners is that as soon as you've got one there are suddenly a million and one things you can find to do with it.

Wayne Williams

Product	ScanMan PowerPage
Price	£586
Supplier	Logitech
Tel	0344 891313
✔	Small, portable but very powerful
✘	A tad expensive and only greyscale
PCH Verdict	★★★★★☆

Cloudbase DX33



THIS is one of the new Cloudbase Series Multimedia systems boxes from Portables & Upgrades. As their name suggests it is just an upgrade base unit.

The idea behind this range is that as everyone has his or her own preferred monitor and keyboard combination, so they will supply you with just the base unit.

You can then buy the keyboard and monitor from this range, from elsewhere, or use any existing equipment that you may have from an old machine.

First impressions of the unit are that it is a neat multimedia box. It has two large speakers on each side, a centrally placed Panasonic CD-562 CD-Rom drive, an array of buttons, knobs and lights along the bottom and the ever faithful 3.5in floppy disk side-mounted. It looks good but is not too imposing as the box is cream and brown and a standard desktop size.

Open it up and you will find that the speakers are built for power as they are internally cased in amplification tunnels which also act as shields. These are powered by a 35 watt amp so they really pack some punch. Inside you will also find a Sound-Blaster V2 sound board, plus a local bus drive controller and a local bus 2Mb Diamond Viper video card.

Due to the amount of sockets included on the case there is not much room left for anything but the smallest of expansion cards. The Cloudbase DX33 comes with 8Mb RAM and is Pentium ready.

On the software side you only get MS-DOS 6.2 and Windows for Workgroups 3.11 and it is available with either a 210Mb (£1,199), or 420Mb (£1,296) hard drive.

A PCI DX2 66MHz version is also available which comes with a 420Mb hard drive, PCI Diamond Viper and costs £1,514.

I have been using this machine for about four weeks now and have really hammered it with a mound of multimedia products. As yet I have had no problems and, on the quiet, I am quite impressed, although I'm not sure if my hearing will ever be the same again.

My only gripe is that the aperture in the rear of the case is not quite wide enough to accommodate the parallel cable for my printer.

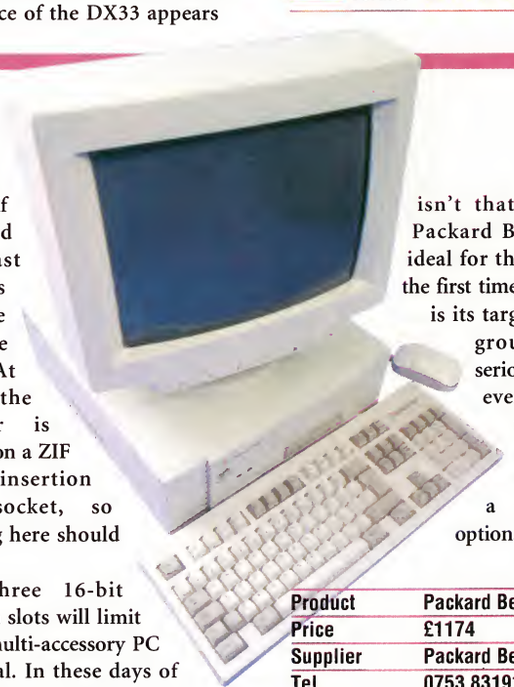
I got it to fit after a short struggle, but I am not sure exactly what kind of a strain this is putting on the card, or the motherboard for that matter!

The price of the DX33 appears to be slightly dearer than average if you take into account the price of adding a new monitor and keyboard to make a complete machine.

Adrian Worrall

Product	Cloudbase DX33 420Mb HD
Price	£1,296
Supplier	Portables & Upgrades
Tel	061-406 6486
✔	Good solution for novices who need to change their PC
✘	Poor access to expansion ports
PCH Verdict	★★★★☆☆

Packard Bell 486ES



BILL Gates' vision of a PC in every home won't come into fruition while the computer is still controlled by an archaic operating system. Packard Bell's new range of 486 PCs, aimed at the home user, definitely takes a step in the right direction though, making the introduction to the world of computing as painless as possible. The 486ES comes ready installed with MS-Dos 6.2, Windows for Workgroups and a range of Microsoft applications, namely Works – the integrated package, plus Money and an Entertainment pack.

As an alternative, Packard Bell can also offer three Lotus products – Ami-Pro, Improv and Approach. When the machine boots up it automatically loads Windows, presenting you with an excellent tutorial application called the Navigator. Aimed at the first time user, this has been designed to guide you through the simple operations of a PC running in Windows. Starting with the basics, like how to use a mouse, it gives plenty of good examples of manipulating the environment. An excellent addition to the package which will have new users up and running in a relatively short space of time.

The review model, a 486SX-33, was supplied with a 260Mb hard disk – enough to accommodate today's demanding software and 4Mb of ram – upgradeable to a maximum of 64Mb.

The slimline case is sturdy in construction and accommodates a standard 3.5in floppy drive and one blanked 5.25in bay for that essential CD-Rom upgrade. There is no room within the case for a second 3.5in disk drive which, although by no means an essential, is always good to have as an option.

I found the floppy drive a little awkward to insert disks into without a secondary push though which may cause problems for the first-time user.

The video chip is built in to the motherboard and there is no VESA option so if you need ultra fast video it's not the machine for you. At least the processor is mounted on a ZIF (Zero insertion force) socket, so upgrading here should be easy.

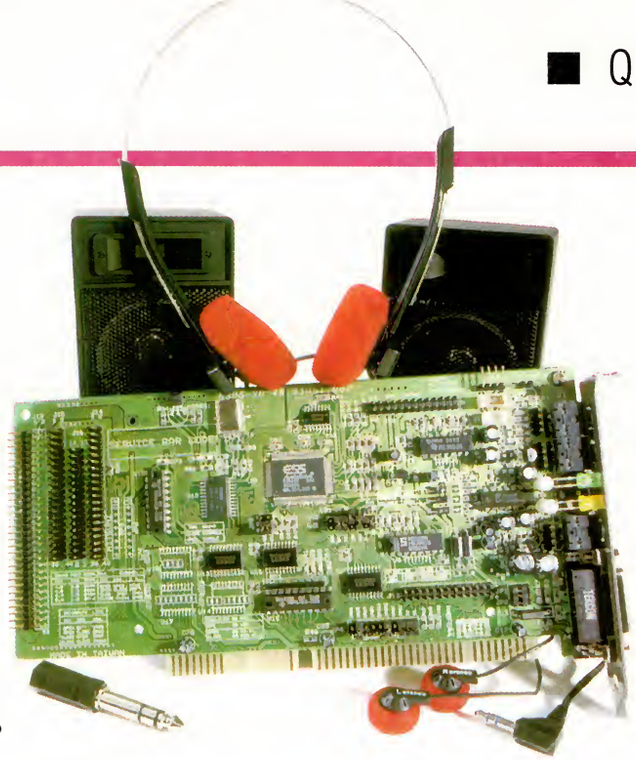
The three 16-bit expansion slots will limit you if a multi-accessory PC is essential. In these days of multimedia and CD-Rom it would have been nice to see a sound card in here as part of the package.

The 14in monitor is clear but the low DPI leaves it looking a little blurred in Windows' higher resolutions. The keyboard seem sturdy, although the mouse isn't that great. The Packard Bell 486ES is ideal for the family and the first time buyer which is its target consumer group. For the serious user however, the lack of upgradability options don't really make it a very viable option.

Pete Hawley

Product	Packard Bell 486ES
Price	£1174
Supplier	Packard Bell
Tel	0753 831914
✔	Sturdy construction, easy to get to grips with
✘	Average quality monitor, little opportunity for upgrading
PCH Verdict	★★★★☆☆

Megablaster



HO, hum. Another day, another soundcard. It seems that for every drop of rain that falls on Macclesfield – which believe me is a lot – someone, somewhere produces another stunning sound card better than any of the others produced so far.

The M² Megablaster 16 sound card is the latest such card to make its way on to my desk and into my PC.

It offers AdLib, SoundBlaster, SoundBlaster Pro and Windows Sound System 2.0 compatibility that you'd expect from any similar quality soundcard, as well as offering the now standard 16-bit recording and playback at up to 44.1k – CD quality sound in other words. Nothing out of the ordinary so far.

The card features the usual line-in, speaker and microphone options, a Midi/joystick port and, hooray, an external slider volume control. Two pretty little lights, green and yellow, are described in the manual as being a volume output inspector. Great. I'm all in favour of flashing lights at the back of my PC where I can't see them.

Something worth noting is that there are three separate AT-Bus CD-Rom interfaces on the card for connecting up any of the usual Sony, Mitsumi and Panasonic drives. This means you can plug and go with the minimum of messing around.

There's a built-in daughter board connector and you can even add a wave table synthesis expansion board to your card, such as the Creative Labs WaveBlaster, if you so wish.

Plenty of software comes bundled with the Megablaster, although you probably won't even look at a lot of it. Worth a mention though is CDPro which will allow your CD-Rom to play normal music CDs, Midiplay – which rather obviously plays midi files and the SLidex presentation manager which will allow you arrange graphics and sound to produce a PC slide show.

As well as all the software, the Megablaster comes with a tiny set of speakers which, to be honest, you'd be better off plugging into a Walkman, and two different sets of headphones – one normal and one mini.

I tested the Megablaster on a variety of different software and it had no problems at all in emulating those cards that it claimed to. The quality was fine, although I had to plug it into my hi-fi to make the most of the card as the tiny speakers really didn't do it justice.

The main problem with 16-bit soundcards such as this though is that there is still very little in the way of dedicated 16-bit sound support.

However, with one eye firmly on the future, the chances are that software will *eventually* move in that direction, so the 16-bit sound facility is worth having, and the supplied software at least makes the most of it.

So what's the verdict? Well, with all of the software and upgrade opportunities it offers, the Megablaster certainly covers all the angles.

I couldn't really fault the card's 8-bit emulation on the software I tried it on and the 16-bit quality is up to the standard you'd expect.

For everything it offers at £88 it's certainly a bit of a bargain, and well worth snapping up, but play the output through a tin can – you'll get far better quality through that than from the supplied speakers.

Wayne Williams

Product	Megablaster
Price	£88
Supplier	M²
Tel	0705 233088
✔	Good value, plenty of software, easy to expand
✘	Offers nothing new, poor quality speakers
PCH Verdict	★★★★★☆

StampMaster GB

I MUST confess that I'm not particularly into stamps. I did once start a small collection when I was about 10 but it sadly only survived for about three whole days before ending up in the bin in favour of something slightly more dynamic.

There are, however, plenty of serious philatelists around who, either for love or money, take their collections very seriously indeed.

The British Philatelic Bureau, an arm of the Royal Mail, know all about the appeal of stamps, of course, and have come up with a database designed to take the effort out of identifying and cataloguing a collection.

StampMaster GB is based on the National Postal Museum Chronolist. It contains a record of every British stamp since 1840 right up to the end of 1994 and every detail, from description, colours, denomination, perforation and phosphor is noted and can be searched.

2	6/05/1840	1d	QV, 1d Black, Line-Engraved
3	8/05/1840	2d	QV, 2d Blue, Line-Engraved
4	16/05/1840	1d	QV, 1d Black, Line-Engraved
5	23/05/1840	1d	QV, 1d Black, Line-Engraved
6	12/06/1840	1d	QV, 1d Black, Line-Engraved
7	17/06/1840	1d	QV, 1d Black, Line-Engraved
8	29/06/1840	1d	QV, 1d Black, Line-Engraved
9	8/07/1840	1d	QV, 1d Black, Line-Engraved
10	18/08/1840	2d	QV, 2d Blue, Line-Engraved
11	5/09/1840	1d	QV, 1d Black, Line-Engraved
12	18/11/1840	1d	QV, 1d Black, Line-Engraved
13	??/01/1841	1d	QV, 1d Red, Line-Engraved
14	??/01/1841	1d	QV, 1d Red, Line-Engraved
15	??/01/1841	1d	QV, 1d Red, Line-Engraved
16	2/01/1841	1d	QV, 1d Black, Line-Engraved
17	29/01/1841	1d	QV, 1d Red, Line-Engraved
18	4/02/1841	1d	QV, 1d Black, Line-Engraved

As a database, StampMaster is relatively easy to use. You can browse through the list, alter search criteria when looking for a certain type of stamp and even compile a wanted list, all from the straightforward menu.

To prevent prying eyes, or worse still mischievous fingers, interfering with your collection, the program comes with a handy password feature and a built-in screen blanker.

All in all the program is perfect for serious philatelists who want to spend time exploring their collection rather than cataloguing it, but they'd have to be very serious about it indeed.

Part of the problem, for me at least, is that StampMaster is not particularly well presented. It would be nice to have various scanned representations of stamps throughout the package, or at the very least a larger description to enable less experienced collectors identify their stamps easier.

Still, I guess you are either into stamp collecting in a fairly big way or not at all, and if you are this package, with its huge, comprehensive list will no doubt come in handy.

StampMaster is a first class (*oh dear – ed*) example of a wasted opportunity that, with a little effort, could have been so much better.

Wayne Williams

Product	StampMaster GB
Price	£49.95
Supplier	British Philatelic Bureau
Tel	031-550 8989
✔	Huge database of stamps, easy to use
✘	Very poor presentation
PCH Verdict	★★★☆☆☆

The Media Bank at Powermark

Power Mark®

FREE CALL
Technical Sales Order Lines
0500-600 486

ADVENTURE CD ROMS

LABYRINTH OF TIME	£25
JUTLAND	£39
DARK SUN SHATTERED LAND	£29
GOBLINS III	£32
LOST IN TIME	£35
REBEL ASSAULT (STAR WARS)	£31
GATEWAY II	£23
ALONE IN THE DARK	£29
SHADOW OF THE COMET	£29
CYBERSPACE	£31
MARIO IS MISSING	£29
LANDS OF LORE	£29
MAD DOG MACREE	£28

100s of CDs available, including Art, DTP, Image, Geography, Language and many other topics

TOP TEN

Last months best selling CD ROMS at Powermark

1.	MS Encarta	(1)
3.	MS Art Gallery	(3)
5.	MS Cinemania	(5)
6.	Rebel Assault	(6)
2.	7th Guest	(2)
4.	MS Musical Instruments	(-)
7.	MS Dinosaurs	(-)
8.	TFX	(-)
9.	Day Of The Tentacle	(9)
10.	Global Explorer	(-)

Brackets show previous position

ENTERTAINMENT CD ROMS

ADVANTAGE TENNIS	£26
AEGIS GUARDIAN OF FLEET	£42
AKIRA	£19
ANECDOTE 3	£9
BATTLE CHESS	£25
CAPITOL HILL	£27
CASTLES 2	£29
CHESSMASTER 3000	£27
CHAOS CONTROL	£Call
CONSPIRACY	£37
• Act the role of a KGB agent	
CYBER RACE	£44
DARK SEED	£31
DAY OF THE TENTACLE	£22
DEATHSTAR ARCADE	£19
DRACULA UNLEASHED	£25
DUNE	£29
• Adventure game based on the best selling Frank Herbert Novel	
DUNGEON HACK	£28
EYE OF THE BEHOLDER	£Call
GABRIEL KNIGHT	£31
HELL CAB	£56
INCA 2	£37
INDIANA JONES IV	£36
JOURNEYMAN PROJECT	£31
JURASSIC PARK	£24
KINGS QUEST VI	£31
LANDS OF LAW	£37
• A full interactive fantasy role play	
THE LAWNMOWER MAN	£35
LEGEND OF KYRANDIA	£34
• A fantasy adventue in an enchanted forest inhabited with dragons	
LEGEND OF KYRANDIA 2	£Call
LEISURE SUIT LARRY 6 (18)	£29
LIBERATION	£Call
LOOM	£38
LORD OF THE RINGS	£31
MANIAC MANSION	£39
MARIO IS MISSING DELUXE	£31
MICROCOSM	£34
MICROSOFT GOLF	£36
NICK FALDO GOLF	£28
POLICE QUEST IV	£32
• All new police adventure game	
PROTOSTAR	£27
QUANTUM GATE	£31
RETURN TO ZORK	£29
RISE OF THE ROBOTS	£42
SAM & MAX HIT THE ROAD	£Call
7TH GUEST POWERCUT!	£37
SHERLOCK HOLMES III POWERCUT!	£33
• Full-motion colour video whodunits	
SOFTWARE JUKEBOX	£34
STAR TREK	£27
STAR WORKS CHESS FOR WINDOWS	£39
STELLAR 7	£25
SUPER STRIKE COMMANDER	£29
T.F.X	£29
TORNADO	£31
UFO	£37
UNDER A KILLING MOON	£Call
WING COMMANDER 2	£31
WINTER OLYMPICS	£29
WORLD OF XEEN	£35

NEW CD ROM TITLES

A selection of the season's releases. Check availability before ordering.

MS BOOKSHELF	£69
MS DANGEROUS CREATURES	£Call
MS ANCIENT LANDS	£Call
MS MULTIMEDIA STRAUSS	£Call
COREL GALLERY	£45
• 10,000 clip art images	
MEGARACE	£29
SOFTWARE TOOLWORKS CHALLENGE PACK	£29
SIERRA GOLDEN 7	£29
WOLFPACK	£19
WINTER OLYMPICS	£32
FOREVER GROWING GARDEN	£35
MOVIE MADNESS	£35
JFK ASSASINATION	£35
BENEATH A STEEL SKY	£34
A MILLION LAUGHS	£28
SUPERSONIC	£47
250 MUSIC CLIPS	£29
1000 SOUND EFFECTS	£29
IRON HELIX	£28
MAP VISION	£155
STREET MART	£155
MANAGING YOUR BOSS	£22
MAKING TIME	£22
HOLLYWOOD CLASSICS	£27
OCEANS BELOW	£25
SPACE IN MOTION	£25
SPACE (PSYGNOSIS)	£26
GROLLIER V.6	£149
MURMURS OF EARTH	£29
CREATION STORIES	£34
ALPHABET BLOCKS	£29
FUNNY: THE MOVIE IN QUICKTIME	£34
ANIMAL ALPHABET	£34
20TH CENTURY (5 DISK SET)	£112
LOVERS GUIDE (18)	£28
HUMANS 1 & 2	£28
DIGITAL LOVE	£19
WALKTHROUGHS & FLYBYS	£25
THE PICTURE LIBRARY	£28
CREATION STORIES	£34
• Scientific theories and legends of the Earth's Creation	
MICROSOFT ART GALLERY	£33

NEW!

COREL CD POWER PACK

~~£49~~

NEW! • Speed up your CD ROM drive with caching software

10 CD ROMs for £35!

Doom, Stellar 7, KQ5, World Fact Book, World Atlas, PC Karaoke Classics, Animation Festival, Media Clips, Time Man Of The Year, CD ROM of CD ROMs - **All for £35**

MISCELLANEOUS CD ROMS

SPACE SHUTTLE	£37
SPACE ADVENTURE	£49
HUTCHINSONS MULTIMEDIA ENCYCLOPAEDIA	£68
• The first British multimedia encyclopaedia	
MACMILLAN'S DICTIONARY FOR CHILDREN	£33
MICROSOFT POWERCUT! ENCARTA 1994	£69
• 28 volume encyclopaedia	

BARGAIN BASEMENT

CHERRY KEYBOARD	£27
MOUSE - MS compatible, with Mousemat	£8
TRIGENT 1MB SVGA CARD	£49
PANASONIC 562 - CD ROM bare drive (limited stocks)	£129

MUSIC & CINEMA CD ROMS

NEW! MATINEE	£27
• Screen saver for Windows featuring movie shots and MPC sounds	
NEW! A HARD DAY'S NIGHT	£35
• The entire Beatles 90 minute film in a small window with scrolling script and press articles	
NEW! THE MUSICAL WORLD OF PROFESSOR PICCOLO	£39
ROGER EBERTS MOVIE COMPANION	£28
MICROSOFT CINEMANIA 1994	£31
• 19,000 capsule reviews	
• 3000 biographies and photographs	
• 754 detailed reviews and movie stills	
JAZZ	£49
MICROSOFT MUSICAL INSTRUMENTS	£32
GROOVES	£77
• 100 clips of high quality musical accompaniment	
MICROSOFT MOZART	£31
MICROSOFT STRAVINSKY	£31
MICROSOFT SCHUBERT	£31
MICROSOFT BEETHOVEN	£31
• An in-depth analysis of each movement of the Ninth Symphony	
• Musical knowledge quiz	
INTRODUCTION TO CLASSICAL MUSIC	£79
COMPOSER QUEST	£49
MPC WIZARD	£10
SOUNDWORKS	£25

CD ROM ACCESSORIES

Quality Disk Caddy	£5
10 Pack	£45
CD ROM Drive Laser Cleaner	£24
CD ROM Disk Cleaner Kit	£19
Refills for above	£6
CD Tower Storage Unit	£19

FREE CD!

when you buy any CD ROM drive

Choose from these titles:

Jets & Props, World View, Deathstar Arcade Battles, Wild Places, Legend Of Kyrandia, Oceans Below, World Music Sampler

Or

Take any 3 of these CD ROMs for £35

TOSHIBA CD ROM DRIVES

3401 INTERNAL	£259
3401 EXTERNAL	£375
• 200ms access time	
• Dual speed	
• Multisession and Photo CD compatible	
• Requires SCSI host adapter	
Audio leads	£5
Photo CD Software	£29
4101 INTERNAL	£199
4101 EXTERNAL	£279
• 385ms access time	
• Dual speed	
• Multisession	
• Requires SCSI host adapter	

COMING SOON...

DRAGONSPHERE, NOMAD, ADDICTION, CHAMP MAN , MARCO POLO, INSECT ADVENTURE, 10 YEAR CD, ARMAETH, BBC MATCH OF THE DAY, LITIL DIVIL, SIM CITY, 7TH SWORD OF MENDOR, BATTLE ISLE 2, ASSASIN, HEIMDALL II, ALONE IN THE DARK II, ISHAR 3, RAVENLOFT, SIM ANT

SCSI CONTROLLERS

STANDARD AT KIT - INTERNAL	£49
EXTERNAL	£59
ADVANCED AT 16BIT KIT - INTERNAL	£119
EXTERNAL	£129
MCA KIT - INTERNAL	£109
- EXTERNAL	£119
PARALLEL TO SCSI KIT	£74
EZ-SCSI V.2 SOFTWARE	£58

CALL 0500 600 486 IF THE CD ROM YOU REQUIRE IS NOT LISTED HERE

CALL 0500 600 486 IF THE PRODUCT YOU REQUIRE IS NOT LISTED HERE

VAT at 17.5% will be added to all prices

The Media Bank at Powermark

CREATIVE LABS FEATURE

SOUNDBLASTER CARDS

SOUNDBLASTER V.2 DELUXE POWERCUT! **£43**
- Includes Indy 500 and Lemmings

SOUNDBLASTER PACK £84
Includes SoundBlaster V.2 Deluxe, amplified speakers, joystick and bundled software.

SOUNDBLASTER PRO BASIC £59

WAVEBLASTER £125
- Add-on daughterboard for SoundBlaster 16
- Sound Read Only Memory
- 213 DC quality musical instrument sounds
- Presets include 128 instruments, 18 drum kits, 50 sound effects

NEW! **SOUNDBLASTER 16 AWE 32 £199**

ALL OUR PRODUCTS ARE 100% COMPATIBLE AND COME WITH A MINIMUM 12 MONTH GUARANTEE

MidiBlaster

SOUNDBLASTER PRO DELUXE £75
- 20 voice enhanced 4-operator FM synthesiser
- Stereo recording for line-in and CD-audio
- Digital and analogue mixer
- Full software control of fade-in, fade-out, pan, volume, left/right steering and microphone mixing
- Includes Indy 500, Lemmings, MPC Encyclopaedia on CD ROM

SoundBlaster 16 ASP MULTICD

FREE CALL Technical Sales Order Lines 0500-600 486

SOUNDBLASTER 16 BASIC £105

SOUNDBLASTER 16 ASP MULTICD £159
- 16-bit stereo sampling and playback MultiCD
- 20-voice enhanced 4-operator stereo FM-synthesiser
- CD ROM interface for Panasonic, Mitsumi and Sony CD ROM drives
- Stereo recording for line-in and CD-audio
- Full duplex MIDI interface
- Expansion for PCM wave table synthesiser
- Digital and analogue mixer

SOUNDBLASTER PRO DELUXE PACK £139
Pack includes SoundBlaster Pro card, dynamic microphone, amplified speakers, joystick, 1 in/1 out MIDI interface, MIDIsoft Recording Session software and bundled CD ROM software.

SOUNDBLASTER 16 ASP SCSI £169
- 16-bit real time compression/decompression in hardware
- 20 voice enhanced 4 operator stereo synthesiser
- Joystick port
- Bundled software included
- Supports SCSI I & II
- Includes EZ-SCSI software

MIDIBLASTER £159
- For amateur and professional music composition and presentation
- 20 polyphonic sounds and drums
- 16 channels, 128 preset sounds, 33 preset effects, 55 preset drums
- Bundled software

VIDEO BOARDS

NEW! **CREATIVE LABS VIDEOBLASTER SE £209**
- Displays full-motion, digital video in a moveable, sizeable window
- Includes MS Video for Windows, Aldus Photostyler and JPEG
- Overlays computer text and graphics on video

VIDEOSPIGOT POWERCUT! **£194**
- Video capture card giving full motion video in real time at up to 30 frames per second
- Includes Microsoft Video for Windows

TV CODER POWERCUT! **£117**
- Use your TV as a monitor
- Flicker-free display
- Converts SVGA to composite video and SVHS
- VideoBlaster interface
- TV Panel software included

BSI REGISTERED FIRM — NATIONAL ACCREDITATION OF CERTIFICATION BODIES

Certificate no. FS 26535
BS5750 registered for the supply of computer, printer and workstation memory, processor and other upgrades.

Powermark plc is regularly assessed by the British Standard Institute to ensure compliance with the quality standard.

FREECALL 0500 600 486 IF THE UPGRADE YOU REQUIRE IS NOT LISTED HERE

MULTIMEDIA KITS

DISCOVERY PACK INTERNAL £434
- Panasonic CR563 multispin/twinspeed internal CD ROM drive
- SoundBlaster Pro 16
- Pro Digital speakers
- Microphone
- Bundled software included

DISCOVERY PACK EXTERNAL £459
- As above but with external drive

PROFESSIONAL PACK INTERNAL £434
- Panasonic CR563 multispin/twinspeed CD ROM drive
- SoundBlaster Pro 16
- Pro Digital speakers
- Microphone
- Bundled software included

PROFESSIONAL PACK EXTERNAL £459
- As above but with external drive

SOUNDBLASTER CD 16 £415
- Includes SoundBlaster Pro 16, Double Speed multisession internal CD ROM drive, amplified speakers and top selling CD titles

DELIVERY CHARGES

UK Mainland:
Next working day courier delivery to your door: only £7 per order (£5 per CD ROM software order)

Europe:
2 day delivery to your door: Call

Power Mark®

HUGE STOCKS
Guaranteed same day despatch on virtually all orders placed even up to 5.30pm.

TECHNICAL SALES PEOPLE
Our sales people are the best. They are trained specialists in their chosen field - multimedia, memory of all types and mass storage.

TESTED PRODUCTS
We only supply products from leading manufacturers. Powermark plc is the only BS5750 upgrade reseller.

TECHNICAL SUPPORT
Dedicated after sales technical support teams on line to help with installation.

CORPORATE & PUBLIC SECTOR ACCOUNTS
We welcome orders from corporate, education and public sector organisations. Just fax or phone your order number.

Use the red border to find these pages easily

14 DAY MONEY BACK GUARANTEE
Items must be returned (with a returns number from Powermark Customer Service) in "as new" condition for a full refund (excluding carriage). Not valid for opened floppy disk based software.

TURN THE PAGE FOR MORE

INSTALLATION SERVICE
While-you-wait and on-site installation services available. Call for details.

PERSONAL CALLERS VERY WELCOME
Save on delivery charges - there's plenty of parking. Telephone first to check our stock position on the items you want. We're also open on Saturdays from 9.30am to 4.00pm.

Powermark plc
Premier House,
112 Station Road, Edgware,
Middlesex HA8 7AQ
Tel: 081-951 3355
(50 lines)
Fax: 081 905 6233

VISA · Access · SWITCH · DELTA

Power Mark®

The Media Bank at Powermark

PROCESSOR UPGRADE FEATURE

Cyrix®

THE NEW CYRIX 386 TO 486 PROCESSOR UPGRADE

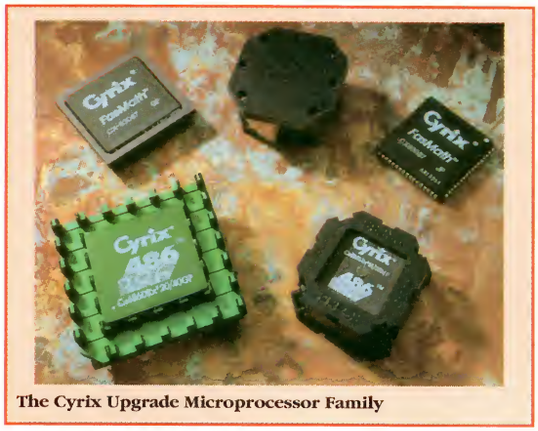
Just when you thought you were up to speed, technology changes. Today's system software puts more demands on your PC. Advanced applications, multimedia and graphics further drain your system's performance.
To keep up you could dispose of your 386 computer in favour of a new 486 model.

Or you could take the smarter, more cost effective option.

Plug in the new Cyrix 386 to 486 Processor Upgrade. It's the fastest, most cost effective way to a 486 computer and its totally compatible with the world's leading software: DOS, Windows and OS/2 operating systems.

The upgrade is based on Cyrix's enhanced Cx486 technology. With it's clock doubling feature, the processor effectively doubles your computer's internal microprocessor speed and without any modifications to your system. You also get performance enhancements such as 1K on-chip cache, fast I/O, and single cycle instruction execution. These features can boost application performance by up to 70%.

Its easy to install. Just remove your existing processor with the tool provided, clip in the Cyrix processor and load the cache installation software. It's as simple as that. You're ready to run in minutes.



The Cyrix Upgrade Microprocessor Family

386DX	DRx² 16MHz to 486 32MHz	£195
	DRx² 20MHz to 486 40MHz	£235
	DRx² 25MHz to 486 50MHz	£265
	LOWER PRICES!	
386SX	SRx² 16MHz to 486 32MHz	£175 ~~£235~~
	SRx² 20MHz to 486 40MHz	£175 ~~£235~~
	SRx² 25MHz to 486 50MHz	£195 ~~£265~~

FREE CALL
Technical Sales Order Lines
0500-600 486

PROCESSOR UPGRADE EXPERTS AVAILABLE FOR SPECIALIST ADVICE

intel®

Intel OverDrive

INTEL OVERDRIVE

- Upgrades 486SX and DX systems to DX2 performance
- Easy to install single chip upgrade
- Lifetime warranty
- Improves system performance up to 70%
- Fully compatible with DOS, Windows, OS/2 and UNIX

INTEL 486 20MHz - SX40MHz DX £219.00
INTEL 486 25MHz - SX50MHz DX £259.00
INTEL 486 25MHz DX - 50MHz DX £259.00
INTEL 486 33MHz DX - 66MHz DX £379.00

NEC FEATURE

TURN THE PAGE FOR MORE MULTIMEDIA

NEC CD ROM DRIVES

NEW! NEC 3Xi

- Triple speed internal drive
- MPC I & II formats
- New loading mechanism
- 256K cache
- 195ms access time

NEC 3Xi £299
NEC 3Xi WITH ISA KIT £353
NEC 3Xi WITH ADVANCED ISA KIT £443

NEW! NEC 3Xe

- Triple speed external drive
- MPC I & II formats
- New loading mechanism
- 256K cache
- 195ms access time

NEC 3Xe £369
NEC 3Xe WITH ISA KIT £412
NEC 3Xe WITH ADVANCED ISA KIT £508

NEC MultiSpin 3Xe

NEC CD ROM DRIVES

NEW! NEC MULTISPIN 2Xi

- Double speed multisession internal drive
- 320ms average access time
- 256K continuous flow cache memory
- Dust door and auto lens cleaning

NEC 2Xi £189
NEC 2Xi WITH ISA KIT £239

NEC

CALL 0500 600 486 IF THE UPGRADE YOU REQUIRE IS NOT LISTED HERE

NEC MultiSpin 3XP

NEC CD ROM DRIVES

NEW! NEC MULTISPIN 4X PRO

- Quad speed external drive
- 600K/sec sustained data transfer
- 180ms average access time
- 256K continuous flow cache memory
- Full function control panel
- Dust door and auto lens cleaning

NEC 4X PRO £639
NEC 4X PRO WITH ISA KIT £699
NEC 4X PRO WITH ADVANCED ISA KIT £799

NEC MULTISPIN 3XP

- Portable triple speed drive
- 450K/sec sustained data transfer
- 250ms average access time
- Full function control panel

NEC 3XP £319
NEC 3XP WITH ISA KIT £369
NEC 3XP WITH ADVANCED ISA KIT £459
NEC 3XP WITH PARALLEL TO SCSI KIT £390

MULTIMEDIA EXPERTS AVAILABLE FOR SPECIALIST ADVICE

NEC MONITORS

NEC MULTISYNC 3FG £357

- 15" CRT
- Unlimited colours
- 1024 x 768 resolution
- Complies with all EEC health and safety regulations
- 0.28mm dot pitch
- Horizontal synchronisation 31.5KHz to 38KHz
- Vertical synchronisation 55Hz to 90Hz

NEC MultiSync 3FG

NEW! NEC MULTISYNC 3V £389

- 15" FST with FullScan, Provides 29% more image area than standard 14" CRTs
- Low radiation
- Intelligent Power Management in accordance with VESA specifications

CALL 0500 600 486 IF THE UPGRADE YOU REQUIRE IS NOT LISTED HERE

The Media Bank at Powermark

MITSUMI CD ROM DRIVES

COMPATIBILITY WARNING
The Mitsumi LU005 CD ROM drive is not fast enough for some graphics intensive programs to run effectively. e.g. 7th Guest.

- Multisession Photo CD compatible
- 340ms access time
- Includes cards, cables & software
- Tray loading
- UK model - not imported

MITSUMI LU005 INTERNAL POWERCUT! £89
With Photo CD software £147
MITSUMI FX001D £159
- Double speed internal drive
- 250ms access time
- 64K buffer
- Motorised tray

SOUND BOARD HARDWARE

ANALOGUE 'Y' CABLE £8
MIDI ADAPTER 1 £21
MIDI ADAPTER 5 DELUXE £75
LAPEL MICROPHONE £7
DESK MICROPHONE £9
HEADPHONES POWERCUT! £7
'PROFESSIONAL' HEADPHONES £19
ORCHID SCSI CHIP KIT £22
YAMAHA HELLO! MUSIC! £359
YAMAHA KEYBOARD FOR ABOVE £289
GOODMANSACTIVE 75 £65
- 80 Watts power output
- Controls for volume, bass, treble

FREE!

CLIP-O-MATIC PAPER CLIP DISPENSER SHIPPEDWITH EVERY 16 BIT SOUND BOARD (While stocks last)

SOUND BOARD SOFTWARE

SOUNDBLASTER DEVELOPERS KIT
MS DOS £48
MS Windows V.3 £48
CREATIVE VOICE EDITOR £37
TETRA COMPOSITOR £54
MIDISOFT STUDIO FOR WINDOWS £133
MIDISOFT RECORDING SESSION £55
WAVE FOR WINDOWS £79
EZSOUNDFX £39
VOICE ASSIST £59
NEW! **MICROSOFT WINDOWS SOUND SYSTEM** £47
MIDISOFT SOUND IMPRESSION FOR WINDOWS £45
MIDISOFT MENTOR £77
MIDISOFT MULTIMEDIA MUSIC LIBRARY V.2 £39

VAT at 17.5% will be added to all prices

SOUND BOARDS

ORCHID SOUND PRODUCER £42
- Includes speakers
- SoundBlaster compatible

ORCHID SOUND PRODUCER PRO £76
- Includes microphone & speakers
- Controls for bass, treble, fade, etc

SOUNDWAVE 32 £156
- Includes Zool, speakers and bundled software
- True 16-bit stereo using using Roland chip set
- Supports Mitsumi and Sony CD ROM drives

GAMEWAVE 32 POWERCUT! £125
- Same as Soundwave 32 but without Zool

GRAVIS ULTRASOUND POWERCUT! £118
- CD quality sound
- 32 digital audio voices
- 16 stereo digital voices

LOGITECH SOUNDMAN 16 £115
- 16 Bit CD audio stereo soundcard
- Yamaha OPL-3 chip with 20 voices

ADLIB GOLD £99
- CD quality sound
- CD ROM & surround sound upgrade options

MICROSOFT SOUND SYSTEM £115
PORTABLE SOUND PLUS £149

MEMORY

1M x 1 - 70ns DRAM £4.42
256 x 4 - 70ns DRAM £4.98
1M x 9 - 70ns SIMM £32
4M x 9 - 70ns SIMM £125
Powermark supply memory, processor and hard disk upgrades for most PCs.

JOYSTICKS

YOKE £23
YOKE PRO (New G Force model) £36
VIRTUAL YOKE £58
FREEFLIGHT JOYSTICK £33
GRAVIS ANALOGUE STICK £27
LOGIPAD CONTROLLER £19
TORNADO £11
DUAL XT/AT GAMES CARD POWERCUT! £9

BEWARE

Beware of major incompatibility between CD ROM drives and sound cards. Powermark's specialists will 'multi-match' for you.

Prices and products are subject to change and availability.
All trademarks & tradenames are the property of their respective manufacturers /owners.

VISA

SPEAKERS

Quality speakers supplied as matched pairs

POWERSOUND SP10 £9
POWERSOUND DELUXE SP20 £19
- Quality PC style active speakers

POWERSOUND MAX SP30 £29
ZY-FI PRO SPEAKERS £48
- 15 Watts per channel
- Built-in power amplifier

AR PARTNER AV22 £47
AR PARTNER AV42 £78
ALTEC ACS50 £79
LABTEC CS-150 £17
- Micro stereo speakers

DELIVERY CHARGES

UK Mainland:
Next working day courier delivery to your door: only £7 per order (£5 per CD ROM software order)

Europe:
2 day delivery to your door: Call

BSI REGISTERED FIRM — NATIONAL ACCREDITATION OF CERTIFICATION BODIES

Certificate no. FS 26535
BS5750 registered for the supply of computer, printer and workstation memory, processor and other upgrades.

Powermark plc is regularly assessed by the British Standard Institute to ensure compliance with the quality standard.

TELEPHONE DIRECTORY

FREE CALL

TECHNICAL SALES ORDER LINES
0500-600 486
AFTER SALES TECHNICAL SUPPORT
081-905 7711
CUSTOMER SERVICE
081-905 7700

FLIGHT DECK

Broaden your Flight Simulator horizons from the widest range of advanced interface controls, scenery disks & books. Commercial pilot available for specialist advice.

POWERPORT 1 POWERCUT! £9
- XT/AT Games Card

POWERPORT 2 POWERCUT! £34
- PS/2 MCA Games Card

FLY ON INSTRUMENTS (Book) £14
MICROSOFT FLIGHT SIMULATOR V.5 £25
MICROSOFT AIRCRAFT & SCENERY DESIGNER £22
FS SOUND & GRAPHICS UPGRADE POWERCUT! Fly Concorde! £18
AIR TRANSPORT PILOT II £29
AIRCRAFT & ADVENTURE FACTORY POWERCUT! £5

SUB LOGIC FULL WEST USA £57
NEW! **SUB LOGIC EAST & WEST USA & AIR TRANSPORT PILOT ON CD ROM** £59
SUB LOGIC EUROPE £13
SUB LOGIC GREAT BRITAIN £25
FLIGHT SIMULATIONS NORTH ENGLAND £25
GEMINI SCOTLAND £29
GEMINI S.W. ENGLAND £27
GEMINI S.E. ENGLAND £29
MS Flight Simulator V.5 Scenery
SAN FRANCISCO £19
WASHINGTON £19
MS NEW YORK £16
MS PARIS £16

Power Mark®

HUGE STOCKS
Guaranteed same day despatch on virtually all orders placed even up to 5.30pm.

TECHNICAL SALES PEOPLE
Our sales people are the best. They are trained specialists in their chosen field - multimedia, memory of all types and mass storage.

TESTED PRODUCTS
We only supply products from leading manufacturers. Powermark plc is the only BS5750 upgrade reseller.

CORPORATE & PUBLIC SECTOR ACCOUNTS
We welcome orders from corporate, education and public sector organisations. Just fax or phone your order number.

Use the red border to find these pages easily

14 DAY MONEY BACK GUARANTEE
Items must be returned (with a returns number from Powermark Customer Service) in "as new" condition for a full refund (excluding carriage). Not valid for opened floppy disk based software.

PERSONAL CALLERS VERY WELCOME
Save on delivery charges - there's plenty of parking. Telephone first to check our stock position on the items you want. We're also open on Saturdays from 9.30am to 4.00pm.

Powermark plc
Premier House,
112 Station Road, Edgware,
Middlesex HA8 7AQ
Tel: 081-951 3355
(50 lines)
Fax: 081 905 6233

To: Powermark plc, Premier House, 112 Station Road, Edgware, Middlesex HA8 7AQ. **Please rush me:**

Qty	Description	Price
		£
		£
		£
		£

I enclose a cheque for £ _____ payable to Powermark plc + Carriage £ 7.00 / 5.00*
(Please write your guarantee card number on the reverse of the cheque) + 17.5% VAT £
or debit my Mastercard/Visa **TOTAL** £
Number _____ Expires ___/___

Please send me your latest information pack ☐ *£5.00 carriage for CD ROM software

Name _____ Company _____
Address _____
_____
_____ Postcode _____
Telephone _____ My computer is a _____

© Cardinal Publicity Ltd

Powermark and the Powermark logo are registered trademarks of Powermark plc.

BATH COMPUTER EXCHANGE

Telephone: 0225 314104

Goldfinch Systems

All makes of computers, peripherals and software are considered for part exchange

COBALT BLUE LIGHTNING 75MHz
Clock tripled 486 from IBM running at 75MHz, 16MB RAM, VESA Local Bus, 1GB Hard Disk 2Mb Graphics Accelerator
£Call for deal P. Ex. Welcome

TOPAZ 486/66
Clock doubled 486 from IBM running at 66MHz, 8MB RAM, VESA Local Bus, 250 MB Hard Disk, 1Mb Graphics Accelerator
£Call for deal P. Ex. Welcome

OPAL 486/66 - 486SX equivalent
Clock doubled 486 from IBM running at 66MHz, 4MB RAM, 250 MB Hard Disk, VESA Local Bus, 1Mb SuperVGA Card
£Call for deal P. Ex. Welcome

All Goldfinch Systems now come supplied with new motherboards from IBM including a 3 year warranty

CUSTOM- BUILT SYSTEMS ALSO AVAILABLE
PLEASE CALL FOR YOUR NETWORKING REQUIREMENTS

Notebooks

Mono

486SX25 4MB/80MB	£Call
486SX25 4MB/120MB	£Call

LCD Colour

486SX33 4MB/80MB	£Call
486SX33 4MB/120MB	£Call
486SX33 4MB/200MB	£Call

TFT Active Colour Matrix

486DX33 4MB/120MB	£Call
486DX33 4MB/200MB	£Call

All with DOS 6.0, Windows 3.1, Mouse, Battery, Mains Charger and 12 Months Warranty

Ex-Demo

386SX25 2MB/40MB, Mono	£Call

Multimedia

CD-ROMS

Single Spin CD-ROM	£Call
Double Spin CD-ROM	£Call
Triple Spin CD-ROM	£Call

Sound Cards

8-bit Sound Card	£Call
16-bit Sound Card	£Call
Multimedia Speakers	£Call

Used Systems - Cheap Cheap Cheap

Example Systems, stock changes hourly. We will collect and deliver systems anywhere in the U.K. mainland

IBM-Compatibles
XTs from £100
286s from £250
386s from £450
486s from £650

Apple Macintoshes
Classic, SE, LCII,
Powerbooks and Quadras
Please call for prices

Notebooks
486, 386, 286, colour/mono
Please call for prices

We buy and sell all makes of computers, software and peripherals

ACCESS

All prices ex. VAT & delivery. E & O.E.

Goldfinch Securities Ltd., 106 Walcot Street, Bath, Avon, BA2 5BG
Tel: 0225 314104 Fax 0225 314092

VISA

It's a steal!

The computer industry has been plagued by piracy since the conception of commercial software and now multimedia products present a new wave of opportunities for the illicit use of sound and video files. Andrew Shaw finds out what's happening on the illegal side of software consumption and investigates what the industry is doing about the problem

SOFTWARE piracy can take a variety forms from simply copying a piece of software that has not been paid for to installing one copy of a package on a multitude of PCs in a business without a proper site licence.

Now with the increasing capability of PCs to handle high-quality digital sound and video, the worlds of software, audio and video crime are becoming increasingly intertwined.

Games publishers are already believed to be suffering from far eastern grey imports of top-selling CD titles like Rebel Assault and on the bulletin boards there are whispers that illicit CD copying in the UK is beginning to grow with the birth of cheaper CD-Rom readers at sub £3,000 prices.

According to the Software Publisher's Association, the software industry in this country lost the equivalent of $194 million in 1993 due to software theft.

Despite sounding like an awful lot of cash it was, in fact, a decrease on the 1992 figure of almost $267 million. From the same figures it can be seen that Britain is also becoming increasingly clean as regards this problem. The SPA estimate that the piracy rate – the number of applications pirated divided by the number used – in the UK in 1993 was 27 per cent, almost half the figure for 1992.

There could be a multitude of reasons for such a drop, but in a time of recession it is unlikely to be financial. More likely is that it's the work done by the likes of FAST – the Federation Against Software Theft – and ELSPA – the European Leisure Software Publishers Association breaking the links between criminals of this type and law abiding citizens, and the amount of media attention the successful cases have had over the past months. However, piracy is still among the most widespread of computer related crime. In this feature I'll be talking to experts within the industry about the problems and some possible solutions, and looking at a new form of piracy that is becoming increasingly common with the spread of multimedia.

IT'S A STEAL

JUST in case you were wondering where the line is drawn in relation to piracy, there are no discrepancies or blurred edges when it comes to software theft.

If you've ever copied a piece of commercial software without having paid for it, you are breaking the law. It's as simple as that.

The difficulties come in because our computer culture has become so flippant about this sort of thing, largely due to the irresponsible nature of the youngsters who started the home computer revolution with their Sinclair Spectrums and early Commodores.

Back in those days, it could be said that the only reason people ever bought games was so that they had something they could swap with their friends. This attitude has stayed with these people, simply because they have continued to get away with it.

How many times have you heard about the police kicking down somebody's door for copying a mate's software? Not very often.

In perspective

PIRACY is also prevalent in other industries – the music industry is in the position whereby hardly a stereo is sold which cannot be used for taking tape copies of commercially sold music.

There are conspiracy theories that say the only reason DAT (Digital Audio Tape) players are not dropping in price like CDs is because they can copy an original CD and match its quality.

Video piracy has hit the headlines many times too. With hardware and software being linked by mega corporations like Sony staking their claim in the multimedia market, it is no great surprise that access to such technology is being restricted by price.

The convergence of companies into large conglomerates means most have their thumbs in a myriad of pies and as such won't use any standards that give the consumer more control than the publisher.

John Loader, head of ELSPA's Crime Unit thinks that computer software piracy is more widespread now than its audio cousin. He said: "This is because software copying is all digital so there is no loss in quality – the copy is every bit as good as the original".

With the increasing capability of PCs to handle high quality digital sound and video, the worlds of software audio and video crime are becoming increasingly intertwined

FAST and ELSPA

TWO organisations working from within the software industry are attempting to crush piracy at its source. FAST act mainly on behalf of the serious and business side while ELSPA have a special Crime Unit headed by John Loader to tackle the leisure and games angle.

Both these organisations are committed to rooting out and prosecuting those who carry out illegal software practices such as copying and re-selling software.

This April for example, ELSPA took two groups of software pirates to court who were selling on disks full of copied software. FAST have made 19 raids on various premises already this year.

Both the ELSPA cases were concerned with the Commodore Amiga on this occasion – one group was selling the disks through car boot sales while the other had a stall on Hayes Street Market.

From the former, ELSPA confiscated over 5,000 disks and their equipment and they got 180 hours of community service.

The latter group, which was slightly more organised, had over 10,000 disks confiscated along with all their equipment, with each person involved receiving a £300 fine.

Most of the software companies back

FAST

these organisations completely. Matthew Tomsett, piracy coordinator at Autodesk said: "FAST are very important to us. They deal with all the problems we have of illegal distribution and people selling illicit copies through magazines and car boot sales. We have passed on information to them in the past though there have been no prosecutions on our behalf yet".

David Smith, services marketing manager for Microsoft agrees: "We liase very closely with FAST and sponsor their work".

Traditionally, piracy has been thought of as a slightly schoolboy thing to do – swapping games in the playground with friends.

After all, try and tell a lad who's getting a couple of quid a week in pocket money to save up for a game, and he'd laugh in your face because he can get it for nothing off a friend.

However, these children grow up, and having spent their early years swapping software and the majority not getting into even the slightest bit of trouble for it, it becomes as normal as a mug of coffee first thing in the morning.

Nowadays, John Loader thinks that

Where do I stand?

AS EVERYBODY knows, the law is not a straightforward thing so I spoke to Nigel Morris-Cotterill, a business solicitor based in the City.

The biggest question is that of backups – is any copy illegal or are backups allowed? The surprisingly simple answer I was given is: "Yes. As long as it is for your own purposes".

Most companies positively encourage this because floppy disks are so unreliable. If you have your own backup copies it often saves the company themselves from having to send out more when they go wrong.

As far as the use of programs is concerned, this is where the law starts getting a little blurred. "All programs are subject to their individual licence agreements", Nigel explained.

"For example Microsoft don't like you to modify programs like Windows, but if you buy a copy with a developer's licence, you can. Generally speaking, though, you aren't allowed to tinker with the actual program.

"There are lots of reasons for this – companies obviously don't like people using ideas from their code for their own software".

So what about files produced on a software package? Do the owners of a wordprocessing package have any right over words written in it? "As long as a file doesn't contain any of the original code and is all the user's own work, it belongs to the user", he explained.

"There are some cases where you can pass on some of the original code, such as Powerpoint's Viewer, which is used to show Powerpoint presentations.

"It's useless for anything else and shows off what can be done to people who don't own the package so they don't mind it being freely distributed".

I also asked why people who are small scale criminals, distributing software to friends, have never really been prosecuted in the past.

"Most people run illicit copies of software, and to be honest, I think it would be foolish of software companies to be too restrictive.

"A lot of piracy is not done for long term use, but to try out a program before deciding which to buy. The other problem is the enormous scale.

"FAST will go for big public cases because they attract publicity and will hopefully make other people think twice before doing a similar sort of thing. It's a simple lack of resources.

"Also, you have to have evidence to be able to search a premises. You need what is called an Anton Piller order.

"To get one of these you have to satisfy a court that illegal copies are being made, which is particularly difficult because you can't get in to search without an Anton Piller.

"It's a Catch-22 situation. FAST have no right to enter a premises, and aren't going to go to all the trouble for one or two illegal copies".

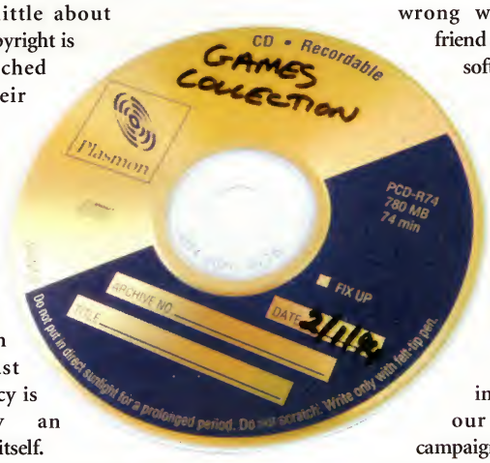
PCs are the machines that form the core of software crime. "Since the boom in the SoHo market", he explained, "and Bill Gates' vision of a PC in every home, piracy on the PC is becoming very widespread.

"The main area we are looking into at the moment is CD-Rom copying which is becoming increasingly common. You can get CD-Rom copiers for around £2,500 now, so by reselling a CD-Rom from anywhere between £40 and £200 the determined criminal can make a massive profit".

Audio and video

THIS is also a big problem for audio and video copying. Some companies simply shovel sound files and visual images and clips on to CD-Rom from bulletin boards.

The files themselves are mostly sampled by enthusiasts, who know and care little about whether copyright is being breached by their actions.



Another big threat is software that is finding its way into Britain from the Far East where piracy is practically an industry in itself.

John Loader comments that the British culprits do it on the cheap compared to elsewhere, as "in the leisure industry there are full pirated copies including boxes which mainly come from the Far East, and CD-Roms are coming over as whole products".

Bob Hay, chief executive of FAST adds for the business side: "We do see counterfeit software packages from time to time but not often. This can do enormous damage to a legitimate company, not only through loss of sales but because the market becomes swamped. This would cause confusion and people wouldn't be happy with the products.

"Generally these kinds of cases come to our attention pretty quickly, as somebody with an illegal copy will have a problem and call the legitimate company for technical support.

"They will then soon realise that all is not well. When this happens we like to give the cases our full attention as quickly as possible so the minimum amount of damage is done".

As an example of this, there was a story recently – see Newsline in last month's *PC HOME* – about a man who bought a wordprocessing package worth nearly £700 off somebody for just over £20.

This particularly diligent individual then reported the fact to FAST, who used the information to make their first successful private prosecution. The culprit was fined £1,279.

But is all software piracy considered equal in the eyes of the law?

Bob Hay explained: "The law is aimed at people who sell and distribute illegal software. However there is software abuse at every level, though some of it is unwittingly done.

"When somebody buys a typewriter, there are no rules attached to it, it can be used as you wish. With a computer there are all sorts of licensing agreements which people simply don't understand. They don't see what's wrong with giving a friend a copy of some software.

"Having said this, it's diminishing as people become more understanding about the issues thanks to high profile information like our advertising campaigns".

People with a modem are also quite capable of downloading full copies of software from piracy-oriented bulletin boards.

Get two computer users together and the fact is they will probably swap software. With communications being as cheap and easy as it today, the potential for groups of people throughout the world illegally exchanging software is enormous.

Copy protection

THERE are ways and means to attempt to stop and limit software piracy. Unfortunately, these are invariably difficult because there will never be anything that is completely immune.

Virgin use a variety of techniques throughout the different stages of production. Doug Johns explained: " For pre-release stuff we use fingerprinted disks – disks which hold information on them about who they were sent to, which is very difficult to find and remove.

"However, there was an unfinished copy of Cannon Fodder found on a bulletin board and it hasn't even been released yet. These things aren't foolproof and the fingerprint may have been erased so we might not be able to trace where it came from".

Obviously this is not a practical method of copy protection for off the shelf purchases as there is often no way of knowing who has which copy.

"Sometimes we use disks that are uncopiable," Doug continued, "though this often leads to more trouble than it's worth because of the problems people have from not being able to backup their disks.

"So we usually rely on manual protection, which gets around all the technical problems but admittedly is fairly easy to get around."

Software companies have made it slightly more difficult to do by producing things like codewheels, black printed code on red paper and bizarre maps printed on tea towels.

Unfortunately hardcore pirates are often as equally imaginative as the developers, so anything that the latter can come up with, the copiers can think of some way or other of getting around it.

The real mix comes in the business sector where there is much variation in people's attitudes to copy protection. ➪

Locked out

SOFTWARE protection is a fairly inventive business, with lots of different ways of attempting to stop illegal copying and use of the products. Here are some of the more popular methods of locking out illegal users.

Manual protection is probably the most common form of copy protection in games. On loading, the software will ask for information out of the manual.

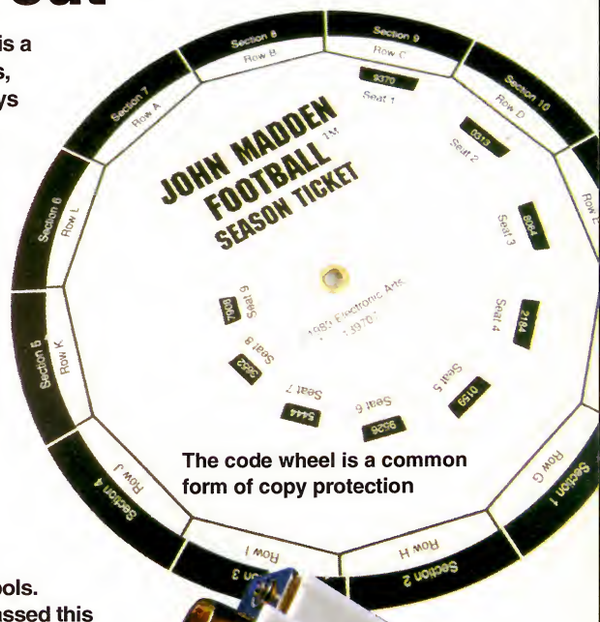
It could be a word, a code, or you might be required to match symbols. Usually, once you've passed this protection, you won't be bothered by it again, though on occasions it may be necessary to enter a code a number of times throughout a game.

A similar type of protection in principle is the code wheel. This is basically a couple of pieces of round cardboard clipped together in the middle so they can rotate freely. You match up information given by the computer on the two wheels, then read off a code or symbol shown through a hole on the top wheel.

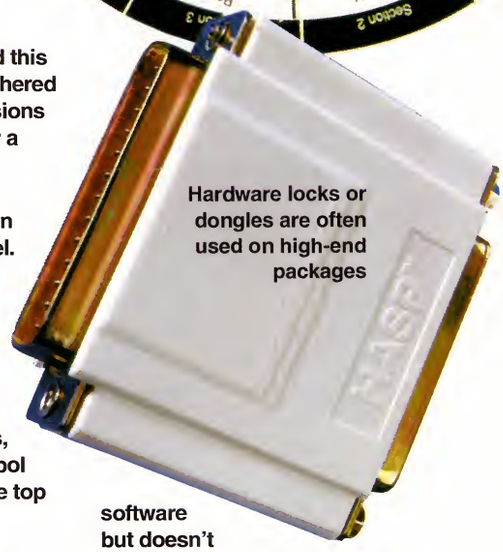
More sensitive pieces of software such as pre-release versions or very expensive packages are sometimes hardware protected by a dongle.

This is attached to the parallel port and is detectable by the software but doesn't actually do anything to the computer.

Because it is hardware based it is much more difficult to copy or crack, but then nothing is impossible.



The code wheel is a common form of copy protection



Hardware locks or dongles are often used on high-end packages

Media

A kitted out multimedia PC can sample video and sound. But what can you copy legally?

Microsoft, for example, don't use any, while Autodesk use a hardware lock, also known as a *dongle.*

Matthew Tomsett claimed that using a dongle on their more expensive products does work. "There are people who can crack it, but very few find it inconvenient. They are used by other companies as well so we're not alone.

"I've seen figures that say 50 per cent of software in use is illegal. I think we suffer less than this because of the hardware lock".

Microsoft have a different view. "We don't use dongles and the like because it's not customer oriented", explained David Smith

"We did have it in the early 80s, but we found it was a barrier to the adoption of our software. So we took it off, knowing the risks involved. We decided it was something that was worth doing".

"If someone can program software to do something, there are bound to be others who can work backwards and destroy it"

Tricks of the trade

A VARIETY of tricks can be used to break down copy protection on computer software. This is far more prevalent on games software than business products, so hacked software is far more likely to appear in the home than at the office.

The classic form of game protection nowadays is via the manual (*see* **Locked out** *panel, previous page*). This is not a difficult system to get around with the help of a decent photocopier, and the same goes for code wheels.

Alternatively, it is possible to use file editing software like PC Tools for example to open up a file and look at the contents. It doesn't take much technical knowledge to scrabble around inside to find the bits relevant to copy protection

On the older home computer formats some of the software companies got quite inventive using things like special lenses to unscramble on-screen codes and key disks which have to be left in the drive and are difficult to copy. This turned legitimate users off though.

There are even legitimate programs available like Raw PC which can be used to break down copy protection on programs.

These are, of course, marketed as a way of making life easier, but the potential for misuse by pirates is practically staggering.

Some users, often referred to as hackers, will break into software as a hobby. This is not necessarily as a method of piracy but simply to prove they can do it and challenge their technical ability – a *because it's there* type of mentality similar to mountain climbers.

If someone can program software to do something, there are bound to be others who can work backwards and destroy it.

THE RISE and rise of multimedia has lead to a whole new form of piracy situated somewhere between computer and audio.

Most people's machines now have limited sampling, video editing and effects facilities. As PCs become more and more linked to stereos and videos through expansion cards and CD-Rom drives, the potential for using this equipment illegally to copy and sample other peoples' work is enormous.

The music industry has been suffering from this for some time. There have been a number of high profile court cases over the past few years in which one group or record company has sued another for using samples from their records.

This has come to such a peak that companies have legal departments listening for similarities, and bands always name check the source of their samples on their records.

The trend of sampling has hit the bulletin boards and shareware libraries in a big way, with many sound samples and video clips freely available for downloading.

The trouble is, unless the person who put the files up for use has permission to do this – unlikely with most people who are just messing around with their equipment – the use of these files could put you on the wrong side of the law.

At the moment this is low enough profile for most companies to turn a blind eye if they know it's going on, but don't expect this situation to last.

To find out more I rang the BBC, as many files on some CD-Roms and bulletin boards have been lifted directly from their television programmes.

Particular favourites are science fiction series Star Trek and Red Dwarf, and comedy shows like Monty Python and Blackadder.

Janet Andrews of the Library Sales department, which looks after the sale of BBC clips to other parties said: "I'm not aware of any permission being given to distribute clips in this way. It's unlikely they have had legitimate clearance as all things like this are licensed under contract. You need the consent of the artist involved and it all tends to cost a lot of money.

"All libraries are aware of the problem. There are pirates of course, but the industry is pretty much based on trust".

This kind of attitude, prevalent in the media industries, unfortunately doesn't carry across to small computer users. If it's copiable, it will get copied by someone, whether it be for personal use or for distribution.

In the professional world, there is no way anybody would be able to get away with using a sound sample or a video clip in a piece of work without the prior permission, and usually some kind of payment to the copyright holder.

In most circumstances it's not so much a case of people

piracy

Grabbing video images with PCs is easy, but is it legal?

considering doing it, they simply wouldn't think of it.

Steve Bingham, an independent producer of video and television, said: "Television and video production companies are very aware of copyright and piracy. Generally speaking, if a substantial amount of visual or sound is used, then you have to come to some kind of deal with the copyright holder.

"This is either the company who commissioned a piece or the production company who made it. Often they are shared copyright holders".

What about small time users though? A source who didn't want to be identified commented: "It's like the law on recording TV on to VHS tapes.

"It isn't strictly legal, but who's going to police it? Everybody does it, and as long as they don't sell copies of tapes on, nobody really minds".

Is there any way of sampling sound and images legitimately? "There are libraries of cleared copyright stuff – documentaries, films, stills.

"These have licences for their products, and the copyright owner will receive a cut of their fee. Most production companies also hold libraries of stock footage they've filmed while working on something else".

The only trouble with this system, of course, is the cost. It's all very well a production company forking out a few hundred pounds for a snippet of video, but the home user isn't going to want to do that.

The answer is, of course, not to use anything that is copyrighted. This is a great shame because people have the impression that this is what multimedia is all about.

Catalogues of copyright free images are available on CD-Rom, and eventually these things will undoubtedly appear with video and sound on them. Until then, unless it's strictly for your own purposes – be careful about using files found on bulletin boards .

There are no organisations yet to watch out specifically for this kind of material, as media companies are usually big and careful enough to be able to look after their own interests.

However, if this grows as a problem for these companies, with their copyright being breached by anyone with a sound card, there's always the chance that there could be a crackdown.

Crime and punishment

THE PENALTIES for software piracy are different depending on the crime. John Loader explained: "Small time swapping, between friends for example, is a civil offence.

"There are no penalties as such, but the owner of the software can take offenders to the County Court and sue them for damages.

"Disk swapping on any kind of scale, like rings of contacts who regularly swap or people who sell through markets are committing a criminal offence. This can go to the Magistrates' or Crown Court where the penalties vary accordingly.

"...people who sell through markets are committing a criminal offence"

"The maximum sentence for a crime of this nature at a Magistrates' Court is six months in prison and a £5,000 fine. At the Crown Court you can get up to two years in prison and the fine is unlimited".

Some solutions

FOR THE reasons I've already looked at, it is always going to be a difficult problem to find the answer to, because if anyone had thought of a foolproof way of reducing piracy already you can guarantee we'd all know about it by now.

John Loader sees a future of co-operation between all those concerned. He says "We work closely with Customs and Excise as far as game cartridges are concerned because they can recognise the products, but it's harder with CD-Roms.

"We're currently working with the audio industry to try and find ways of sorting this out because of the influx of pirate products from the Far East".

Microsoft share this view. Bernard Vergnes, president of Microsoft Europe, says: "Counterfeiters threaten the success of this and every other company in the software industry, and we are determined to work closely with the authorities to take strong action against the illegal copying and distribution of products".

David Smith adds: "We like to be flexible now, providing lots of different licence options that suit the customer – for example buying a piece of software for a PC at work that you can also use at home.

"Also we'll only give technical support and access to upgrades to registered users. We think this makes the asking price worthwhile so hopefully this may help reduce smaller scale piracy".

They are also trying to do some good with the money they make from their European court cases, by giving half of the proceeds of anti-counterfeiting cases, up to a limit of $500,000, into retraining unemployed information technology workers to use PCs.

Matthew Tomsett sees it as a question of making people understand what they are doing. "People need to be better educated. They don't understand that they are only licensed users of a product – they don't own it just because they've bought the disks. If people knew the consequences of their actions I think they'd be less prone to doing it"

Virgin's Doug Johns has a slightly more pessimistic view: "Obviously there should be more done about small time copying, but fighting this kind of thing is difficult because so many people do it. Most people copy audio on to tapes, it's just one of those things that people do".

It would seem that although the battle against professional piracy will continue, and may even be won through the extensive efforts of groups like FAST and ELSPA, the ability to change the illegal attitude of the individual is a long way from being controlled.

● *Nigel Morris-Cotterill is a business lawyer with Millet Hall Solicitors in the City of London. ELSPA can be contacted on 0386 830642 and FAST have an anti-piracy hotline for reporting software theft: 0628 660377.*

STRIKE GOLD!

Win a Thunderseat, Thrustmaster joystick and some great games courtesy of US Gold

First prize

Thunderseat, Thrustmaster joystick plus 11 flight sim titles from Kixx XL

ADD a new dimension to flight simulations and other games. By connecting the Thunderseat to the sound output from your PC via a hi-fi system, you can actually *feel* the action.

Being shot at by the enemy? Boom! You'll really know when you've been hit! Playing games will never be the same again.

There are currently only a few of these seats in this country. They're expected to go on sale this summer at around £300.

You could be one of the first to own one for the cost of a postage stamp, plus you'll get a state-of-the-art joystick and 11 great games!

Runners-up

THREE runners-up will get to choose three titles from the Kixx XL flight simulation range. This top-quality range of budget software includes classic games from the likes of LucasArts and Microprose.

- Battle of Britain: Their Finest Hour
- Battlehawks 1942
- F15 Strike Eagle II
- F19 Stealth Fighter
- Gunship
- Knights of the Sky
- Secret Weapons of the Luftwaffe

Plus these great SubLogic titles due out in September:

- Flight Simulator II
- Scenery Collection
- Flight Assignment ATP
- New Facilities Locator

● If you require more details on the Kixx XL range of games, call US Gold on 021-606 1800. For information on the Thunderseat and Thrustmaster joystick range contact RC Simulations on 0272 550900.

Your entry form

Answer the following questions, fill in your details and send this form to:

Strike Gold!, PC HOME,
Europress Publications, Europa House,
Adlington Park, Macclesfield SK10 4NP

1. Which of the following is NOT a game from the Kixx range?

☐ F19 Stealth Fighter ☐ F15 Strike Eagle II ☐ F13 Firefox

2. Which of the following is NOT based on aeroplanes?

☐ Airplane! ☐ Airbag a Airport '77

☐ Please tick this box if you not wish to receive further information on the Kixx XL Range

Name .....

.....

Address .....

.....

.....Postcode.....

Daytime telephone number.....

Rules:
- Entries must be received by first post June 16
- We regret that this competition is only open to readers in Europe
- Employees of Europress, US Gold and all related companies are not permitted to enter

RICOH LP1200 PCL5 LASER PRINTER

400DPI 2Mb RAM 6PPM

A4 TEXT/A5 GRAPHICS @ 400dpi • A4 GRAPHICS @ 300dpi. A 2Mb RAM UPGRADE IS REQUIRED TO PRINT A FULL A4 PAGE OF GRAPHICS AT 400dpi

HP LASERJET III™ COMPATIBLE • FLASH ROM UPGRADEABLE!

Ricoh, have used their expertise to produce a 'first' in laser printers, the LP1200 with FLASH ROM. HP LaserJet III™ compatible, the LP1200 employs industry proven laser technology which, unlike LED printers, uses a laser light source to produce the most accurate and intense printed images at a range of print resolutions up to 400dpi. A fast efficient processor and engine, plus a straight paper path design allows printing at a full 6 pages per minute. The 2Mb RAM version prints a full A4 page of text or graphics at 300dpi. Using standard resident fonts and the alternate controller firmware supplied, it can also print an A4 page of text or A5 page of graphics at 400dpi and, using the Windows driver supplied, an A4 page of text at 400dpi from Windows 3.1.

FREE!
WINDOWS 3.1 DRIVER
SUPPORTS 300 & 400DPI
AMIGA DRIVER
SUPPORTS 300 & 400DPI

2Mb RAM

SHOWN WITH
UNIVERSAL FEEDER
TOP TRAY (OPTIONAL EXTRA)

The 4Mb RAM version can print a full A4 page of graphics at 400 dpi and makes full use of the LP1200's 400 dpi printing capabilities, such as using Microsoft Windows fonts. Unique additional standard features include FLASH ROM 'future proof' technology and LAYOUT - a powerful document description language. The LP1200's unique internal FLASH ROM, which holds the printer controller firmware, can easily be updated as new developments in technology occur. This protects the investment you make in buying a Ricoh LP1200. Other manufacturers would require you to buy a new printer! Internal FLASH ROM and industry standard FLASH ROM PCMCIA cards can also be used to permanently store fonts, macros, graphics and extra emulations. Again, unlike the competition, the LP1200 includes LAYOUT, a powerful and intuitive document description language as standard. This offers unique opportunities to develop custom made printing systems. Forms and document templates can be designed complete with logos and stored electronically in the LP1200's FLASH ROM, alleviating the need for pre-printed forms!

The LP1200 comes with a 100 sheet A4 paper tray as standard. An optional universal feeder automatically feeds up to 150 sheets of paper (up to 169gsm), 15 envelopes, transparencies and labels.

CONSUMABLES + ACCESSORIES

PRODUCT CODE	PRODUCT DESCRIPTION	PRICE EXC VAT
CAB 7500	Cable for PC/ST/Amiga	£8.47
KIT 5200	Laser Starter Kit inc Cable	£12.50
LAA 5238	Universal Feeder (2nd Tray)	£85.00
LAA 5262	2Mb RAM Module	£85.00
LAA 5210	Developer/Toner Cartridge	£65.00
LAA 5225	OPC Cartridge (Drum)	£89.00
LAA 5312	A4 Paper Tray (100 Sheets)	£35.00
FAX 1200	Ricoh Fax/Modem Software/Firmware	£120.00
MOD 7199	Pace Microlin FX Fax/Data Modem	£149.00
LAA 5279	Ricoh Flash ROM Card (0.5Mb)	£49.00
LAA 5288	Ricoh Flash RAM Card (1Mb)	£199.00

All Prices are Exc VAT - CALL FOR A FULL PRICE LIST

*Note: A4 paper tray is already included in the printer price. More A4 trays can be purchased to feed different coloured stationery.

UNBEATABLE VALUE

THE AWARD WINNING RICOH LP1200 LASER

PREVIOUS PRICE ~~£599~~ + VAT

NEW LOW PRICE

£499

+ VAT = £586.33 LAS 5200

LP1200 WITH SINGLE BIN AND 2 Mb RAM

FREE DELIVERY

COMPUTER SHOPPER BEST BUY AUGUST '92

PC TODAY BEST BUY OCTOBER '92

AMIGA FORMAT GOLD

LASER PRINTER AWARDS What to Buy for business

PC MAGAZINE UK EDITOR'S CHOICE OCTOBER '92

FEATURES	IBM 4029-020	FUJITSU VM600	CANON LBP-4 PLUS	STAR 8III	RICOH LP1200
Average Street Price (excl. VAT)	£929	£699	£659	£899	£699
Maximum resolution in dots per inch	300 x 300	300 x 300	300 x 300	300 x 300	400 x 400
Windows 3 Driver @ 400 dpi	-	-	-	-	YES
Print Speed	6ppm	6ppm	4ppm	8ppm	6ppm
Straight Paper Path	-	NO	(ONLY FACE UP)	YES	YES
PCL 5 Printer Command Language	-	YES	-	YES	YES
HP-GL/2 Vector Graphics included	YES	YES	-	YES	YES
Resolution Improvement/Enhancement	YES	YES	YES	YES	YES
Standard RAM	1Mb	1Mb	512K	1Mb	2Mb
Full A4/300 dpi graphics with standard RAM	-	-	-	-	YES
Warm Up Time	33 secs	25 secs	<60 secs	60 secs	45 secs
First Page of Text Output		15 secs	31 secs	18 secs	<15 secs
Document Description Language included	-	-	-	-	YES
Flash ROM	-	-	-	-	YES
Flash ROM Upgradeable Firmware	-	-	-	-	YES
PCMCIA Card Slot	-	-	-	-	YES
Scaleable Resident Fonts - in HP LJ III Emulation	0	8	0	8	8
Resident Bit-Mapped Fonts	10	14	2	14	14
AGFA Intellifont Scaleable Font Technology	-	YES	-	YES	YES
HP LaserJet III Emulation Included	-	YES	-	YES	YES
EPSON FX Emulation Included	-	YES	YES	YES	YES
IBM ProPrinter Emulation Included	-	YES	YES	YES	YES
Standard Tray Capacity	200	150	70	200	100
Protective cover on standard tray	YES	-	YES	YES	YES
Cost per copy**	1.9p	2.0p	2.1p	2.2p	1.65p
Min-Max Paper Weight in gsm	60-163	60-157	60-105	60-135	60-169
Able to print on OHP Film	YES	YES	YES	YES	YES
Able to print on 169gsm card (Manual Feed)	-	-	-	-	YES
Standby - Noise Level	38dB(A)	35dB(A)	<43dB(A)	<43dB(A)	<38dB
Printing - Noise Level	50dB(A)	46dB(A)	<53dB(A)	<53dB(A)	<48dB
PC Independent PLAIN PAPER FAX OPTION	-	-	-	-	YES

**As quoted by manufacturers - July '93

- **6 PAGES PER MINUTE**
- **2Mb RAM AS STANDARD**
  Upgrade to 4Mb RAM only £85+VAT - see below
- **PCL5 - INC HP-GL/2**
  With scalable fonts and vector graphics
- **SHARP EDGED PRINTING**
  Ricoh FIAL (Fine Image ALgorithm) enhances resolution
- **400dpi RESOLUTION**
  (Default res. - 300dpi. Will address 200, 240 & 400dpi)
- **UNIQUE FLASH ROM**
  For controller upgrade and storage
- **PCMCIA CARD SLOT** (PCMCIA/JEIDA Compatible)
  For programmable FLASH ROM cards
- **EXPANSION BOARD SLOT**
  For improved connectivity eg. Coax/Twinax, PC-LAN etc
- **LAYOUT** Document Description Language
- **SERIAL + PARALLEL PORTS**
- **1 YEAR ON-SITE WARRANTY**
  Next working day response

E&OE All Trademarks are acknowledged

THE SILICA SERVICE

SILICA 1978 15 YEARS 1993 SERVICE TO YOU

Before you decide when to buy your new laser printer, we suggest you think very carefully about WHERE you buy them. Consider what it will be like a few months after you have made your purchase, when you may require additional peripherals or software, or help and advice. And, will the company you buy from contact you with details of new products? At Silica, we ensure that you will have nothing to worry about. With our unrivalled experience and expertise, we can meet our customers' requirements with an understanding which is second to none. Complete and return the coupon now for our latest FREE literature and begin to experience the "Silica Service".

- **FREE OVERNIGHT DELIVERY:** On all hardware orders shipped in the UK mainland (there is a small charge for Saturday delivery).
- **TECHNICAL SUPPORT HELPLINE:** A team of technical experts will be at your service.
- **PRICE MATCH:** We match competitors on a "Same product - Same price" basis.
- **ESTABLISHED 15 YEARS:** We have a proven track record in professional computer sales.
- **PART OF A £50M A YEAR COMPANY:** With over 200 staff - We are solid, reliable and profitable.
- **BUSINESS + EDUCATION + GOVERNMENT:** Volume discounts are available. **Tel: 081-308 0888.**
- **SHOWROOMS:** We have demonstration facilities at all our stores.
- **THE FULL STOCK RANGE:** All of your computer requirements are available from one specialist supplier.
- **FREE CATALOGUES:** Will be mailed to you, with special reduced price offers, as well as details on all software and peripherals.
- **PAYMENT:** We accept most major credit cards, cash, cheque or monthly terms (APR 29.8% - written quotes on request).

SILICA

27041711/4

MAIL ORDER

PLUS TECHNICAL AND HEAD OFFICE

081-309 1111

1-4 The Mews, Hatherley Road, Sidcup, Kent, DA14 5SS

PLUS BRANCHES AT:

CHELMSFORD Tel: 0245 355511
Debenhams (2nd Floor), 27 High St, Chelmsford, Essex, CM1 1DA

CROYDON Tel: 081-688 4455
Debenhams (2nd Floor), 11-31 North End, Croydon, Surrey, CR9 1RQ

GLASGOW Tel: 041-221 0088
Debenhams (5th Floor), 97 Argyle St, Glasgow, Strathclyde, G2 8AR

IPSWICH Tel: 0473 221313
Debenhams (2nd Floor), Westgate Street, Ipswich, IP1 3EH

LONDON
52 Tottenham Court Road Tel: 071-580 4000
Debenhams (3rd Floor), 334 Oxford St Tel: 071-493 3735
Selfridges (Basement Arena), 369 Oxford St Tel: 071-629 1234

MANCHESTER Tel: 061-832 8666
Debenhams (3rd Floor), Market Street, Manchester, M60 1TA

SIDCUP Tel: 081-302 8811
1-4 The Mews, Hatherley Road, Sidcup, Kent, DA14 4DX

SOUTHEND Tel: 0702 468039
Keddies (2nd Floor), High St, Southend-on-Sea, Essex, SS1 1LA

To: Silica. PCHOM-0694-219. 1-4 The Mews, Hatherley Rd. Sidcup. Kent. DA14 4DX

PLEASE SEND INFORMATION ON RICOH LP1200

Mr/Mrs/Miss/Ms: ..... Initials: .....

Surname: .....

Company (if applicable): .....

Address: .....

.....

.....

.....

..... Postcode: .....

Tel (Home): .....

Tel (Work): .....

Which computer(s), if any, do you own?

..... 219A

Quality Shareware fr

Orders received by 3.30pm despatched same day • First Class postage • First Cla

UTILITIES

9308 **4DOS**, enhanced DOS (2)
10309 **Acteon**, renowned HD manager
• 10530 **Automenu**, super menu maker
• 10517 **Powermenu Plus**, menuing & more! (2)
• 10379 **Nildram Menu System**, with passwords
• 9568 **Quik-Menu III**, graphical menuing!
9555 **BJ Files**, disk cataloguer/database
12246 **CatDisk**, cataloguer/file searcher
9360 **DBS-Kat**, diskette cataloguer
9503 **Bmenu**, UK menu/batch file creator
9568 **Blank-It**, best screen blanker!
9750 **Disk Duplicator**, any format fast!
12259 **Easy Format**, for easy formatting
• 10400 **Flexi-Back Plus**, for safe back-ups
9854 **LQ**, famous dot matrix print enhancer
• 12272 **Integrity Master**, anti-virus tool (1)
9412 **McFee's** anti-virus toolkit (2)
9425 **Virus Central**, menu system for above
9971 **Peruse**, super ASCII/Binary reader
• 9932 **PKLite**, great .exe file compressor
• 9438 **PKMenu**, front end menu for PKZip etc
• 10023 **PKZip/PKUnzip**, file compression utils
2730 **BigText**, make .exe file from ASCII!
9880 **Maxiform**, more disk space formatter
• 9571 **Screen Thief**, grabs any screen!

DESKTOP ACCESSORIES

9516 **Ample Notice**, appointments manager
11908 **BlacqueBook**, for addresses/tele nos
11921 **Business Calculator**, for the finance man
11934 **Calendar Mate**,calender/scheduler/tickler
6929 **Ticklex**, appointments & more (3.5" only)
8047 **Calendar Keeper**, calendar database
12220 **Desk Commando**, menus + desk top tools
11947 **Dr Memory**, for appointments & events
12207 **Early Bird**, UK calendar/tickler etc
7280 **Time Lord**, UK personal organiser
12077 **Friday**, TSR calendar/organiser
11986 **Organise**, memos, events, appointments
11960 **FSCalc**, pop-up calculator

ASTRONOMY/RADIO

14508 **ACE, mapper**, ephemeris & database (2)
14534 **Deep Space**, star maps, planets etc (2)
13737 **Night Sky**, star mapper & plotter (2)
13740 **Skyglobe**, high resolution star gazer!
13743 **Skymap**, precision celestial mapper(2)
13746 **Solar**, sun eclipse predictor
13749 **Sicicon Sky**, displays celestial sphere
13752 **StarSide**, star map generator
8000 **Amateur Radio Log**
8013 **SuperMorse**, morse tutorial collection

COMMUNICATIONS

15314 **Telemate** 15301 **Eazilink**
• 15431 **Odyssey** 15379 **QModem (2)**
15353 **EasyDial**, directory/telephone dialler
15457 **Eazihost BBS** 15483 **Sapphire BBS**
15470 **Wildcat BBS (2)** 15496 **RBBS (4)**

SPREADSHEETS/STATS/MATHS

• 1014 **As Easy As V5.5** 1027 **Expresscalc (2)**
1222 **Instalcalc** 1209 **JOSS (3)**
3562 **Alite** 3571 **Proqublite 3-D**
1105 **PC-Calc+** (can link with PC File!) (3)
1131 **Pivot & 1092 Onside**, printing utils
1196 **Promatheus**, mathematician's calculator
1079 **Morsoft Calculator**, shows tally roll
• 1066 **KwikStat**, comprehensive stats package
3588 **Arcus-Pro II**, top UK stats program (3)
1118 **PC-Stat**, statistical reports program
3601 **Microstats**, fast statistical analysis
3614 **Survey**, for questionnaire analysis
3627 **Easistat/plot**, analysis & graphing (2)
3630 **Mathsplot**, define/plots functions
3633 **Zgraf**, create/print maths graphs
3636 **Confusion & Light**, fractal generator
3639 **Recursive Realm**, fractal system
3642 **Mandelbrot Magic**, generator

DATABASES

• 4381 **PC-File V5**, powerful best seller (4)
• 3042 **PC-File V7**, new graphical interface (4)
• 4264 **File Express**, powerful menu-driven (3)
3029 **Fastfile**, fast, small & easy
4251 **DLite**, pop-up desk top database!
• 4303 **Information Please!** freeform text etc
4368 **Wampum**, dBase 3 compatible database
• 4433 **Zephyr**, Fox-pro compatible database(3)
3055 **SR-Info**, programmable database (2)
4212 **Cardex Rotary File**, simple to use
4225 **Data Pal**, ideal list/label manager
4290 **Freeform**, easy data entry/retrieval
4238 **PickDB**, easy beginners database
4524 **QBase**, design multiple databases!
• 1820 **DtsEARCH**, doc search/retrieval program
4628 **DBF Cases**, (UK) for legal cases
4641 **DBF Magindex**, (UK) papers, mags etc
4602 **DBF Mailist**, (UK) mailer & labels
4615 **DBF Papers**, (UK) for scientific lit.
4563 **Scraps**, super random info manager
4576 **JEPRS**, bibliographic database system
4589 **BIBL**, bibliographic database system
4537 **Research**, evidence/research database
3081 **Researcher**, political campaign system
3068 **Useful Notes**, pop-up info manager
3094 **Saturn25**, AI database! UK newest

BUSINESS ACCOUNTING

• 5239 **MS-Cashflow Calculator** (UK)
• 4904 **MS-Point of Sale Invoicing** (UK)
• 5252 **Cashflow Accounting**
5369 **Depreciation Calculator**
• 5005 **Freeway Ledgermaster**, latest version (3)
• 5018 **Freeway Cashbook**, easy to use (3)
• 5031 **Freeway PAYE-Master**, UK flexible (2)
• 5057 **Page Financial Controller**, powerful (2)
7891 **Profitability**, accounting & job costing
7878 **SOAR+**, accounting/invoicing etc (2)
• 7865 **COBOS Accounts**, a UK best seller
• 5122 **Noyes Simple Accounts**, for beginners
• 5135 **Noyes Home Accounts** for a small business
• 5109 **Noyes Accounts**, with stock control
• 5148 **Noyes Home Cashbook**, (home & business)
• 5161 **Noyes Cashbook Analyser**
6097 **PC-Budget**, home/small business accounts
• 5642 **Invoicemaster**, accounting & inventory

PERSONAL FINANCE

• 5941 **Home Finance Companion** UK, superb!
6058 **Loan Payment Calculator**
• 6253 **Page Cheque Manager**, home/business
6097 **PC-Budget**, home/business accounts
• 6279 **Trinity**, UK home accounts
6305 **Personal Portfolio Manager**
5928 **Capital Gainz**, portfolio manager
6292 **Share Genius**, UK share tracker
5668 **Noyes Investment Ledger**
7852 **Wall Street**, investment tracker
7816 **Keyshare**, UK share tracker
7839 **Your Plan**, pers finance planner

GENEALOGY

8034 **Brothers Keeper**, V5.0 latest version (4)
• 8645 **Trees II**, proven UK package
8710 **Family History** (2) 8684 **Genie Genie** (2)
8216 **Rootsmaster** 8647 **Family Ties**
9243 **Family Scrapbook** (2) 9256 **Cumberland Tree**
8671 **Pedigree**, for pet owners/breeders
9269 **Robinsons Animal Genealogy** collection

HOME & HOBBY

9204 **Knitwear Sweater Designer**, hand/machine
9061 **Cumberland Diary**, diary & word processor
8021 **BABY!** 12,000 names list
• 8723 **Bookminder** 8765 **Record Collector**
• 8749 **Coin Collector** 8827 **Video Collector**
• 8996 **Stamp Collector** 8762 **Recipe Collector**
• 8736 **Club Membership** 8554 **Home Contents**
9074 **Birdbase**, for birdwatching enthusiasts
9022 **Matchmaker**, sports league/match maker
9009 **Classical Music Collector** database
8918 **Football Forecaster**, UK pools program
8840 **Punters Pal**, UK racing form analysis
8879 **Golf Performance analyser**
8658 **'Owzat**, cricket scorer/database
8567 **Meal Master**, recipe database
8151 **Personal Nutritionalist**, diet analyser
8268 **The Better Diet Analyser**
9035 **Foodease**, UK nutrition/food/diet/ recipe database, great new arrival!
8931 **Edna's Cookbook** 8788 **Winemaker**
8932 **3,500 Recipes** for Ednas Cookbook (4)
9048 **Race Manager**, for sporting events
8606 **Book Librarian** 8203 **Resume Master**
9217 **Astromart**, astrological chart maker
9230 **Astro**, astrological analysis program
9807 **Book of Changes**, I Ching
9178 **By the Numbers**, numerology
9139 **Personal Tarot** 9126 **Mayan Calendar**
8060 **CD-Master**, CD/tape indexer etc
8073 **Coinbase 2.3**, collectors database
8036 **Collector**, collectibles database
8177 **Postbase**, stamp collection manager
8619 **Photo Equipment Database**
8281 **VC Library**, video cataloguer
8138 **Household Register**, home inventory
8853 **Vino:File**, for the wine cellar
9282 **Organise!** your photographs, negs etc
8944 **Bible Reader, (4)**
• 8000 **Noyes Chess Grader**
8003 **Omnimeal**, meal planning/cooking sys
8006 **Compu-chef**, recipe/meal management
8009 **Dieting & Weight Control**, aids/utils

WORD PROCESSING ETC

2717 **BREEZE**, powerful/easy new WP
2720 **PC-ProMaster**, grammar checker
• 1911 **Galaxy-Lite**, best selling WP
2587 **Wordmaster**, easy to use WP
• 2769 **PC-Write Standard WP**, latest (4)
• 2743 **PC-Type**, major WP system (4)
2288 **PC-Write Lite**, new version (2)
1690 **20-20**, Large type WP
2626 **ZippyPrint**, one page WP
2119 **EDT**, scientific word processor
2808 **Intext**, multi-lingual WP
2821 **RGB-TechWriter**, technical WP
1755 **TV Script producer**
2418 **Screenplay Formatter**
2834 **Sharespell**, ASCII spellchecker
1859 **EZ Spellchecker**, for ASCII text
2054 **Jorj Dictionary**, (3.5" disk only)
2210 **PC-Browse** 2249 **PC-Index**
2253 **Readability Plus**, style analyser
2847 **Proscribe**, writing style tool
2548 **Thesaur Plus**, for elusive words
2106 **Mindreader**, WP with a difference!
2782 **A2Z WordPerfect**, a 5.01 utility
2236 **PC-Outline** WP/ideas organiser
1768 **Black Magic Hypertext** system(3)

BUSINESS-GENERAL

• 7241 **MS-Property Letting System**, new
7579 **ProQuote**, UK estimates/quotes (2)
• 6812 **ZIPO**, UK superb contact manager
• 7618 **ESP**, UK powerful contact mgr (3)
7524 **AIM**, delegated tasks tracker
6617 **AppTRAK**, applicant/jobs tracker
7631 **Perbase**, UK personnel database
7644 **SBase**, UK staff attendance system
6630 **AttendX**, attendance/leave monitor
6656 **Contact Plus**, contact/client manager
6669 **Costbiz**, job cost program
6877 **Easy Project**, project management
6890 **Optima**, project management tool

* We can supply Registered Versions too!
Titles marked thus (•) are readily available. Ring for latest prices.
* Note: Some titles contain more than 1 disk (see bracket). Price is per disk.
Shareware programs are supplied on an evaluation basis.
To continue using a program separate payment to author is required.

Fax it Fast! Fax your Credit Card orders to 081-776 8477

...on ENSIGN

Service! • Titles for Business • Leisure • Pleasure

For PC's and compatibles, from only **£2.00** per disk (or less - see offers) including postage and VAT. 3½" and 5¼" same price!

6734 **MT-Tracker,** client/project tracker
● 5187 **Noyes Work in Progess,** cost analysis
6942 **Formgen/FormFill,** forms designer (2)
6721 **MORFORM,** forms management system (2)
6760 **PC-Form,** forms manager, generator
6773 **PC-Mechanic,** workshop repairs manager
6747 **Pay-UP!** invoicing/customer DBMS
6786 **PC-Shift,** job shift scheduler
7007 **Personnel Supervisor,** database
6799 **Powerquote,** quotation/invoicing system
6994 **Professional Scheduler**
7033 **Reservation Assistant,** resource manager
6825 **Sales-Biz,** sales tracker
7059 **Service Call Manager** (2)
● 7592 **SuperStock,** UK inventory manager
7657 **Bar Steward,** Hotel & Pub inventory
7670 **Price Search,** customers/prices database
7683 **Price Tracker,** suppliers/prices/clients
7696 **Plant Maintenance,** equipment & plant (2)
7709 **FAR,** (UK) fixed assets register
6903 **Taskman,** task & project tracker
6916 **Taskmaster,** project manager
6838 **TBS Vehicle Maintenance system**
7111 **Work Queue,** task/project/staff scheduler
7772 **Courier,** outstanding UK mailing database
7735 **Mail-Pro,** UK mailing database/wp
7748 **Label Magic,** graphic label generator
8541 **Images,** prof photographers database (3)
7215 **Magazine,** produce electronic magazine
6643 **Catalogue,** make electronic catalogue

FUN & GAMES

Arcade Games:

● **Commander Keen I** ● **Commander Keen II**
● **Duke Nukem** ● **Captain Comic**
● **Arctic Adventure** ● **Crystal Caves**
● **Wolfenstein 3D** ● **Secret Agent Man**
● **Dark Ages** ● **Paganitzu**
● **Caverns of Kroz** ● **Kingdom of Kroz**
● **Monument of Mars** ● **Return to Kroz**
● **Keen Dreams** ● **Rescue Rover**
● **Monster Bash** (3.5" 1.4MB disk only)
● **Major Stryker** (3.5" 720K disk only)
● **Ken's Labyrinth** (3.5" 1.44 MB only)
● **Hexxagon** (3.5" 720K disk only)
● **Jill of the Jungle** ● **Corncob 3-D**
● **Solar Winds** (3.5" 720k disk only)
● **Jetpack,** (3.5" 720K disk only)
● **Dare to Dream** (3.5" 720K disk only)
● **Zone 66** (3.5" 1.4MB disk only)
● **Overkill (3.5")** ● **Phlox (3.5")**
● **Capture the Flag** ● **Brix**
Ford Sim II **Ford Sim III (1.4MB)**
Super Fly **Super ZZT**
Shooting Gallery **Spellchick**

Simulation Games:

Grand Prix **Goal!**
Sticky Wicket **World Cup Cricket**
Railroad Simulation **Rockstar**
BassTour **Bass Class**
PC-Pro Golf **Soccer**

Text Adventures:

Avaricus **Hugo III** (720K)
Colossal Cave **Hugo II**

War Games:

Battle for Atlantis **Scorched Earch**
Global Warfare **Napoleonic Battles**
Battle of Midway **Battleground WWII**
Frigate **Big Three WWII**
World Empire **War of the Mages**

Misc/Wordgames:

Crossword Creator **Crossword Solver**
Namegram, anagram generation (2)
CrisCros, crossword generator (2)
Go! exciting oriental strategy game
Blackjack **Patience Games pack**
Chinese Checkers (EGA/VGA)
PowerChess **Chess Tutor**
Mahjongg **Cribbage**
Bridgepal, the Bridge tutorial

EDUCATIONAL SOFTWARE

Pre-school/Primary

● **Hooray for Henrietta** VGA
● **Henrietta's Book of Spells** VGA
● **Count & Add,** Lander Gold Series
ABC Funkeys, 2-5 toddlers delight!
Amy's First Primer **Andy's Word Games**
Bert's Dinosaurs, colouring program
BabyDraw, kids drawing program
Animated Maths **Animated Memory Game**
Animated Shapes **Animated Alphabet**
Word Gallery, word/picture matching game
Multiplication Primer
The Driller, arithmetic drill
Snakes, fun sums for kids (UK)
Tell the Time **KidGames**

Junior

Math Workout, all age math driller
Maths Castle, arithmetic skills game
● **Word Rescue** ● **Spellbound**
● **Maths Rescue** ● **Adventure Maths**
Word Games Collection for juniors
Monarch, UK monarchs database & quiz
Flags, of the world plus quiz
Googol Review, maths games compendium
Googol Math Games, + test & tutorial
Eco Master, ecology simulation
Animal Quest, food chain ecology game
Childrens Graphics, drawing & colouring
Mighty Math, tables tutor & test mode
Punctuate, interactive tutor
Balloon Speller, three spelling games
Spelling Bee, vocabulary builder
Weekly Speller, spelling tutor

Senior

Chronos, historical dates/relationships
Calfacts GCSE Physics V4.0 revisers/
Calfacts GCSE Mathematics self tutors
Calfacts Computer Studies
Caltest Integrated Science, GCSE
Senior Physics Facts, hypertext tutorial
Algebrax, interactive algebra tutorial
Calculus Tutor **Electronics Tutor**
German GCSE **French GCSE**
World Name Game, national capitals etc
Historical Documents collection
Activities & Notes for literature
Students:- (one disk each title),
Of Mice & Men, Merchant of Venice, Lord of the Flies, Romeo & Juliet, Macbeth

Miscellaneous

● **PC-AI,** tutorial & instruction composer
PREP, question authoring system
Q & A Study Aid, testing/quiz compiler
Quizmaster, create and play quizzes
Testwriter, test writing program
Typing Tutors: PC-Fastype,Touch Typing
Tutor, Type-Trek (each title one disk)
Capworld, geography trivia game
Trivia Quiz, compile your own quiz
DOS Users Guide, great on-line aid!
PC-Glossary, computer terms explained
PC-Musician, PC music writer
PianoMan, compile & edit tunes
Noteworthy, Write & print music!

WINDOWS PROGRAMS

ActionList 200, personal time manager
Smart Accounts, UK for home & business
Cortex Accounts & Database, UK
SmartCat Plus, superb disk cataloguer
MoneySmith, home/ business accounts
Above & Beyond, task scheduler etc
Parity, stock charting/tech analysis
Hi-Finance, menu driven finance tools
PC-Project, project management
Wynfields, powerful relational database
Windows Reminder, graphical time mngmnt
Address Manager, addresses/auto-dialler
WinCheck, cheque account manager
Astral Windows, popular astrology prog
Chartist, create org/flow charts etc
Chemical, molecular modelling program
Winspell, spell checker
Winfract, Windows version of Fractinct
TommySoftCAD, CAD/Design program
Paint Shop-Pro, image edit/convertor
FontShow, font viewer/cataloguer
Whoop-it-UP, sound utility Win 3.1
Win Batch, complete batch language!
Drag & View, file manager & more!
Pools Plan, be a winner!
Weights & Measures, speedy converter
Calfacts GCSE Physics tutor
Caltest GCSE General Science
Mahjongg for Windows
Power BBs for Windows
Graphics Workshop for Windows
Printers Apprentice, font browsing utility

GRAPHICS/CAD/DTP

● **Envision,** outstanding graphical DTP (2)
Circuit Designer **PC-Schematic**
Fractinct, renowned fractal viewer
Postmaster, the poster maker
Print Partner, for banners, signs , calendars
The Draw, ANSI graphics file creator
Draft Choice, easy to use CAD system
● **EEDraw,** ideal for electronic schematics
PC Draft CAD, full, powerful CAD program (3)
● Dan-Cad 3D, wire frame graphics (3)
Flodraw, produce flow charts & more
PC-Graphit, for easy graph production
Turbopaint, painting & drawing
Finger Maps, line/map drawing
Alchemy, image file format convertor
Vuimage, gif/gif89/tif viewer & more
Quick Titles, large ASCII fonts
Giphex, gif/pcx file convertor

Access MasterCard EUROCARD VISA DELTA

No stamp needed (UK only excluding Isle of Man)
Send your order and cheques payable to:

ENSIGN SYSTEMS (PCH)
FREEPOST LONDON SE26 5BR
Telephone: 081-778 2871 Fax: 081-776 8477

* SPECIAL OFFER *Choose 12 Disks for only £24.00! or 15 Disks for only £29.00! or 20 Disks for only £36!*

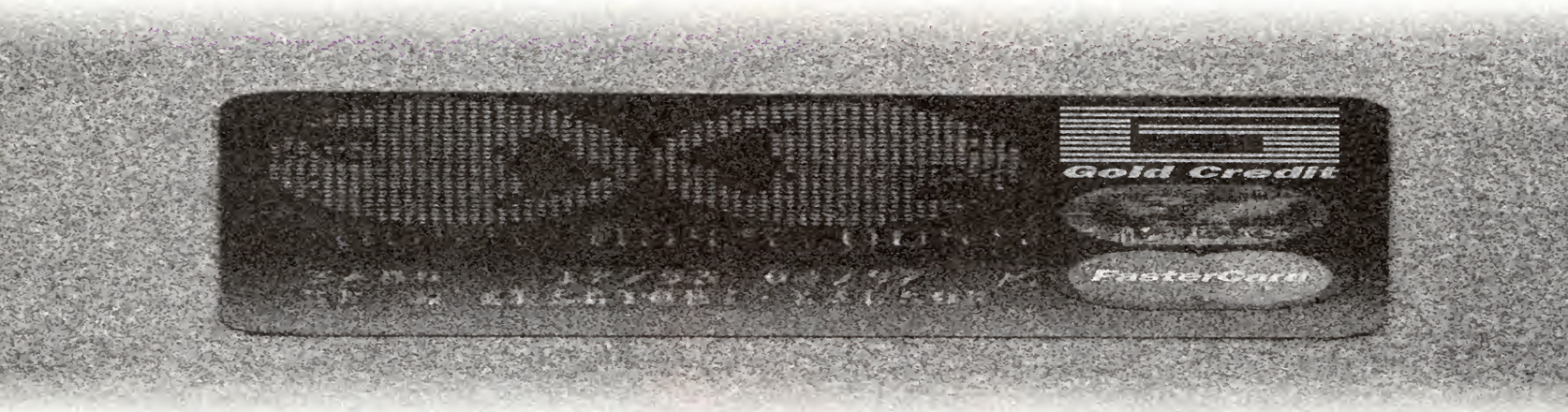
OUR PRICES
(Inclusive postage & VAT)

Disks Ordered	£ Cost	Free Disks
3 disks (min order)	8.80	–
4 disks	11.80	–
5 disks	12.50	–
6 disks	14.75	–
7 disks	17.65	–
8 disks	20.00	+2
9 disks	22.50	+2
10 disks	24.00	+2

13-36 disks – **See special offers**
28+ disks – **£1.85 each**
Overseas Postage add £3.50

Credit Card Order Line 081-778 2871 8am 'til Late

A CD collection that won't stretch your plastic



TOP CD-ROM TITLES FOR UNDER £15

Eye of the Beholder

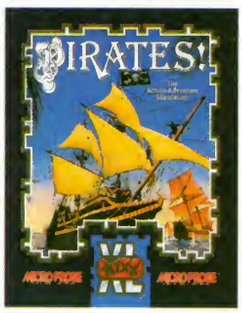
Cruise for a Corpse

F-15 Strike Eagle II

F-19 Stealth Fighter

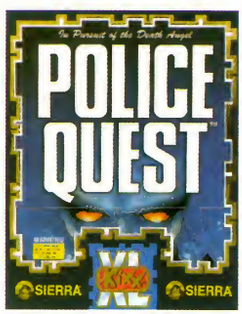
M1 Tank Platoon

- **EVERY TITLE IS FULLY PLAYABLE FROM CD**
- **ENJOY DESERT ISLAND ANTICS WITH JOHNNY CASTAWAY AND ADD THE WORLD'S FIRST STORYTELLING SCREEN SAVER TO YOUR WINDOWS PACKAGE (USUAL RRP £19.99)**
- **ALSO INCLUDED ARE OVER 20 CURRENT INTERACTIVE AND ROLLING DEMOS FROM THE WORLD'S LEADING SOFTWARE PUBLISHERS**



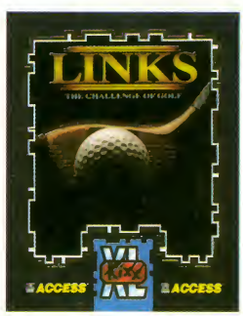
Pirates!

Leisure Suit Larry 1™



Police Quest™ 1

Space Quest® 1



Links - The Challenge of Golf

KIXX XL is Europe's leading mid-price software publisher and is renowned for its wide variety of top quality titles from the world's most prestigious software houses, including LucasArts, Sierra On-Line, Delphine, SSI, MicroProse, U.S. Gold and Access. The brand offers a host of genres from flight simulations and sports simulations to graphic adventures and role-playing games.

KIXX XL now gives you the opportunity to purchase these classic titles for your PC CD-ROM for only £14.99 each. All titles are fully playable from CD and include over 20 current demos and a screen saver.

Quality & CHOICE... Make the ConneXion

CD - 03

For further information on KIXX XL's CD-ROM range, please complete this coupon and return it to the address below:

Name:.....

Address:.....

Postcode:.....

KIXX, 1-4 Cuckoo Wharf, Lichfield Road, Birmingham B6 7SS. Tel: 021 625 3311 Fax: 021 625 3312.
All trademarks are acknowledged as the property of their respective owners.

Family crisis?

The *PC HOME* family have been having teething problems with the latest addition to their household. Wayne Williams comes to the rescue

MEGA CD-ROM V

THREE months ago we picked a family at random to receive a brand new MPC and assorted hardware and software with a view to seeing how it would change their lives. This is the third report on their progress.

There's an old phrase, probably coined by Confucius or someone suitably inscrutable, which goes: *I see, I forget, I do, I remember.* It's a saying that holds particularly true when talking about computers.

If someone shows you how to do something, you're less likely to remember it than if you learn to do it yourself through trial, error and experimentation. The main problem with this method of learning, however, is that it can often lead to disaster, as the Truman family found out to their cost.

WHEN we rang Karen Truman to confirm a date for our next visit she told us they'd been having one or two problems with their new Gateway 2000 Multimedia machine.

Young Oliver, who'd taken to it like a duck to water, had swum out of his depth and in customising Windows to suit his needs – adding Hanna Barbera sounds and so on – had somehow managed to completely mess up the system.

They had every single program opening a window one at a time on boot-up, accompanied by a suitably annoying Yogi Bear sample, and a peculiar non-standard interface with which the rest of the family were less than happy.

The whole thing was such a mess that it took quite some time to sort out. We eventually returned the system to normal by re-installing Windows. Hopefully it will remain okay, for a while at least.

Next time, we'll leave them in the hands of Gateway and Microsoft's support teams.

Understandably, with Windows taking upwards of 15 minutes to load fully, the PC hadn't been used to its fullest extent since our last visit. For that reason the new software we'd delivered last month hadn't been fully explored.

The family had also found problems with those that they had tried. Putt Putt goes to the Moon and ADI Junior Maths weren't working because Oliver was trying to run them in Windows instead of simply through Dos.

A noticeable lack of free memory was also not helping the situation but Memmaker quickly solved that particular problem and also added Smartdrive to the Config.sys, a move which will hopefully improve the overall performance of software that has so far been hampered by the PC's continual access of the hard drive.

No problems with the Hewlett-Packard printer – so far

Although they've only had the PC for a few months, clear software favourites are already beginning to emerge. Microsoft's Creative Writer is still far and away the biggest hit, with Europress Software's Fun School coming a close second.

EA's Putt Putt goes to the Moon also looks like becoming a well-used package now that it's up and running.

The future of multimedia however, in the *PC HOME* family's household at least, is already looking decidedly shaky. Having tried out such noteworthy packages as Microsoft Dinosaurs and Microsoft Music, they are still to be convinced of its worth. "There's simply not enough to hold your interest and attention", seems to be the main complaint.

"...the PC is still nowhere near as easy for a family of beginners to get to grips with"

It will be interesting to see how they get on with their very latest software package, Environment 1: Water – a multimedia offering from Academy Television.

Designed to follow stages 3 and 4 of the National Curriculum and promote environmental awareness among the 11 plus age group, it won initial approval from mum and dad who appreciated the idea behind it.

But will the children – its target audience – take to it with the same enthusiasm as they did to Empire's Hanna-Barbera Animation Workshop? Will multimedia ever gain a firm foothold in our test family's home? The industry holds its breath.

Hopefully with all of the problems sorted out, for the moment at least, we can leave the *PC HOME* family to get on with using the machine and fully testing all of the supplied software.

One thing, however, that has become clear from our experiment so far is that the PC is still nowhere near as easy for a family of beginners to get to grips with as it needs to be in order to realise Bill Gates' famous dream of a PC in every home.

Hopefully Microsoft's future offering, Chicago, will go some way to making the PC more accessible to the average family. From what we've seen so far, it will certainly need to.

● *We'll be visiting the Truman household again in two months. Hopefully, they should have spent longer with the software. We'll also be gauging their reaction to the HP DeskJet 520.* PCH

Our sponsors

MANY Thanks go to the generous companies who have kitted out the *PC HOME* family, in particular Gateway 2000 – for supplying the multimedia PC and Hewlett-Packard for the DeskJet 520 printer. Also, those companies who have very kindly donated software. Your generosity is appreciated.

BACK TO YOUR ROOTS

Granddaddy genealogical program Brother's Keeper has sired some significant offspring – on both sides of the sheets. James Taylor checks their pedigree

RECORDING your family history can be what you make it. You can take the biographical approach, putting notes in narrative form and recording the family's story with less emphasis on documentary sources than on memories, anecdotes and gossip.

You can take the strict genealogical approach, rigorously verifying every name, date and relationship discovered, against reliable corroborated evidence. Or you can combine the two, supplementing documented information with extensive descriptive notes, though at the expense of narrative flow.

The first objective can be met with any wordprocessor. The last two demand dedicated genealogical software, of which Brother's Keeper is probably one of the most popular packages available.

NOW in version 5.1, Brother's Keeper certainly seems to have withstood the test of time. Like a lot of shareware, it's popular because its updates are more in response to user's advised needs and preferences than to a marketing manager's assumptions.

And unlike many, it can also be registered, or bought in full version, in the UK. It isn't the prettiest package around and it still retains some petty irritations – a jumbled menu and awkward printer control among them – but it still remains one of the most practical approaches to genealogical record keeping.

"All in all ... an excellent example of the genre"

For those unfamiliar with genealogical software, it is just a specialised set of databases able to handle information about people and events and to relate them to each other in a predetermined way. Its output to screen and printer is also predetermined, usually producing lists of people in relationship or chronological arrangements – and usually in both together. Most programs require no skill to use and most, but not all, can also generate the familiar *family tree* charts.

Brother's Keeper does all of this and more. It prints both descendant and ancestor charts that show how anyone in the file is related to everyone else. It also prints family group sheets, alphabetical name lists, descendant trees, birthday and anniversary lists, box (tree) charts and most other information in user-defined lists.

Significant dates can include birth, death, and three other user-defined dates, and you can record the places where these events occurred.

Attached text or picture files, identified by their $$ prefix, can be viewed by pressing F5. Text files can also be printed

Each person included can have up to eight marriages recorded, each showing the date and place, one additional date and place and divorce information and each marriage can have 24 children – natural, adopted, fostered or step. That ought to cover most families.

The more meticulous user will welcome the fact that most fields can be annotated with footnotes of source information. Extra information can be added either in individual short text fields or in external Ascii text files of unlimited size.

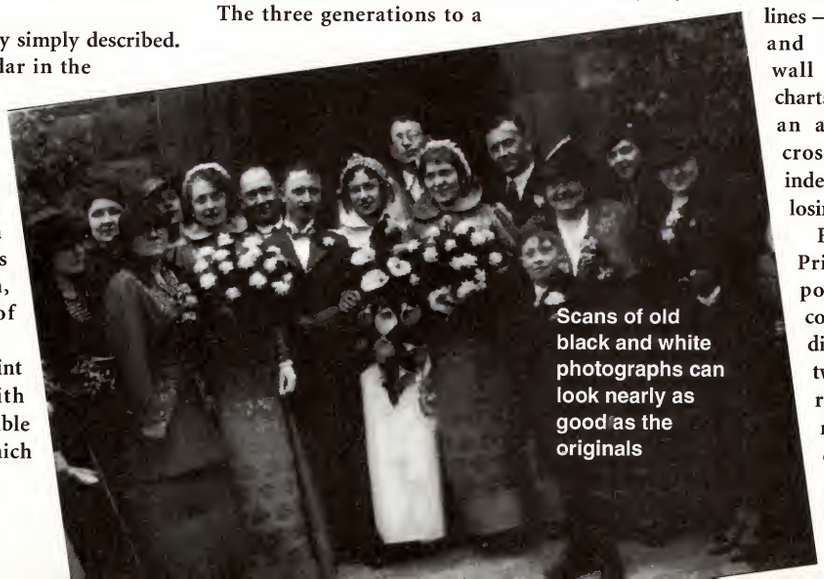
Other features include speed entry, assignment and recovery of data and near-comprehensive control over format and output options with 11 differ-

Close relatives

BROTHER'S Keeper Accessories Pack is a collection of supplementary shareware programs – mostly from other publishers – which can use data from Brother's Keeper to generate even more charts.

Calendar is very simply described. It prints a calendar in the familiar grid-box layout, showing birth dates and anniversaries, taking data from existing files. It's a genuine Brother's Keeper add-on, unlike the rest of this package.

Family Tree Print Utility works with any PAF-compatible Gedcom file – which Brother's Keeper can produce automatically – to print out a variety of charts and indexes, its three-generation linked-list printouts being particularly suitable for loose-leaf binding. The three generations to a page include the subject and spouse, their parents and children.



Scans of old black and white photographs can look nearly as good as the originals

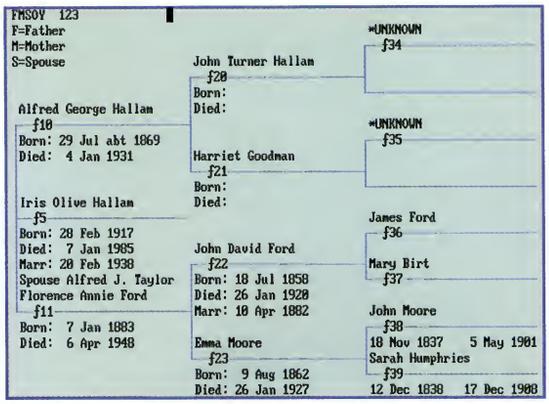
Other chart formats include a family history wallchart containing everybody in your database with no crossed lines – and ancestor and descendant wall charts. All charts can include an alphabetised cross-referenced index to stop you losing granny.

Family Tree Print also supports pedigree collapse, a condition in which two people are related in more than one way. In my family tree, for example, it picked up a brother and sister who married a sister and brother and who were, therefore, both siblings and double in-laws at the same time – they can't touch you for it!

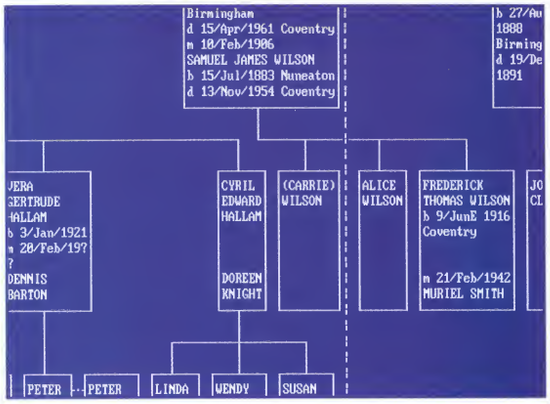
Again, the only function of Genbox is to produce genealogy box charts from previously prepared Gedcom files. Charts generated can include up to 255 generations as descendants or ancestors of the selected person. You can also show everyone in your database, whether related or not.

Its charts, therefore, can be huge and Genbox's principal attraction is in its space saving features. Brother's Keeper produces charts which line up underneath each other in regular columns, leading to wallpaper-roll charts.

Genbox can allow some boxes to *tuck under* the boxes above, hence



Brother's Keeper's pedigree chart shows several generations in compact form.



Genbox's *tuck-under* boxes reduce the width of the chart and save paper

ent ways of handling dates. One useful attribute concerns last names which can optionally be identified by surrounding them with the [and] characters, so that Robin [Locksley] of Sherwood, say, is sortèd on Locksley and not Sherwood.

This is also useful for names not of the common European format. The [and] characters will not print on reports.

Current generation

ONE of the useful things you can do with Brother's Keeper is to *attach* one or more external Ascii text files of any length to any person recorded. In the latest version, 5.1, you can use the same method to link one or more picture files too.

Pictures must be scanned in PCX format and, aside from family photographs, can include documents – wills, deeds, certificates, memorial cards, and so on. You can have any combination of text and picture files – given the disk capacity – to a maximum of seven per person.

Fortunately, for most scanned documents and many family photographs, black and white is perfectly adequate. The author makes the point that a black and white photograph looks almost the same in 16 shades of grey as it does in 256 shades of grey but is half the size when saved.

Unfortunately, although both text and pictures can be viewed on a VGA screen, the pictures won't print at all. If you haven't got a scanner, S&N Enterprises will scan photographs for you at £2 a time, up to A4.

Brother's Keeper 5.1 has also been given a time line and statistical bar charting facility, which help you to visualise your family in context. The bar chart routine displays and prints statistics showing the months of birth, marriage and death, number of children per marriage, and, unsettlingly, life span.

The time line report prints or displays a time line for the ancestors of a given person showing year of birth and death. You can also include other events or other famous people on the chart by putting the relevant information in the events text file.

All in all, Brother's Keeper 5.1 is an excellent example of the genre, and the good news is that you don't even need a powerful machine to run it – any PC with 512k and a hard disk will do.

Product	**Brother's Keeper 5.1**
Price	**£9.95 (shareware) £39.95 (registered)**
Supplier	**S&N Enterprises**
Telephone	**0252 510486**
✔	**Justifiably popular with a good mix of orthodox data and free text or pictures**
✘	**Looks old-fashioned but then, it is genealogical**
PCH Verdict	★★★★½

reducing the overall width of the chart and helping to save the rain forests. It is assisted in this by its dynamic box widths, where the width of each box on the chart can vary dependent on the data in it, so minimising wasted space.

The final two programs are a bit of a cheat. Both Family Scrapbook and Chronos are complete, standalone programs. The former is a very nice genealogy program with a full set of reporting and charting facilities. Data can be entered by hand or by Gedcom file – as generated by Brother's Keeper. Presumably included because of its easy search facility, it could be rendered redundant by Brother's Keeper 5.2.

Brother's Keeper handles scans from colour originals too

Chronos cannot use data from Brother's Keeper at all. It's a useful and interesting time line program that can be used to put your ancestors in their historical context but many will find Brother's Keeper's time line adequate, albeit not so sophisticated.

Product	**Brother's Keeper Accessory Pack**
Price	**£13.95 (shareware)**
Supplier	**S&N Enterprises**
Telephone	**0252 510486**
✔	**A useful collection of extra reporting facilities for Brother's Keeper**
✘	**Third-party add-ons, don't work in same way as Brother's Keeper**
PCH Verdict	★★★½☆

The new generation

DUE in the next couple of months is Brother's Keeper 5.2. Although this is unlikely to be a major upgrade, finding your way around will be easier with an improved name search producing a scrolling list of all matching names, and single key selection of an alternative database.

You'll also get six new reports – direct lineage, number of descendants, a *reasonableness check* drawing your attention to unlikely dates, list and frequency of all surnames, list of all locations and missing information. Plus a pop-up date calculator and, especially intriguing, a *collapsed ancestor* chart.

Finding out

THE first place to start finding out about your family history is from your family, especially the older members and, without dwelling too much on Time's wingèd chariot, the sooner you start the better.

You'll want as much biographical information for individuals as you can get, including proper names in full, occupations and addresses – past and present. Include any family stories about ancestors – for instance, great grandfather came from Liverpool. Even the briefest information can be built on to give a picture of an ancestor's likely life style.

Having exhausted family sources, you can then turn to official records. These are far too complicated to discuss here but the Society of Genealogists (071-251 8799) publishes a free catalogue of sources available to members and non-members, including several beginner's guides.

Recommended books include *Tracing your British Ancestors* (ISBN 1 873686 07 2 at £4.42) and *Beginning your Family History* (ISBN 0 907099 63 7 at £3.44). Both are available off the pages of the monthly periodical, *Family Tree Magazine* (£1.65 from WH Smiths).

VICTORY OVER

TWO FINGERED TYPING

Prepare yourself for a Victory roll with Flying Fingers – the ultimate Windows keyboard tutor. Flying Fingers is ideal if you need to brush up your typing skills, your word processing, or if you just want to add another string to your bow. • It will show you how to create important document layouts – and with the help of quirky characters who act as your on-screen tutors you'll have fun at the same time • Using the built-in timetable you can choose when and for how long you should practise each day • There are musical sound effects to add a new dimension to your learning • Choose any of four languages at the touch of a button Yes, with Flying Fingers *your* fingers will be flying over the keyboard in no time! For more information complete and post the form below.

Please send me more information on Flying Fingers Keyboard & Typing Tutor.

NAME: _____ PCH 06

ADDRESS: _____

_____ POSTCODE: _____ TEL: _____

POST TO: EUROPRESS SOFTWARE, FREEPOST, EUROPA HOUSE, ADLINGTON PARK, MACCLESFIELD, SK10 4BY. TELEPHONE: 0625 859333

europress SOFTWARE

CREATIVE LIFESTYLE

MEDIA TECHNOLOGY LTD • MULTIMEDIA PROFESSIONALS • MEDIA TECHNOLOGY LTD

How to order
Call us now on: 081-449 6565
Telesales opening times:
9 am - 6.00 pm Monday - Friday
Mail Order Fax: 24 hours a day
081-449 1885
9 Beech Hill, Hadley Wood, Barnet, Herts EN4 0JN

media technology

excellence in multimedia

WE ARE THE MULTIMEDIA PROFESSIONALS

WHY BUY FROM MEDIA TECHNOLOGY?

- First class pre and post sales technical expertise
- Competitive prices
- Excellent Service and support
- We have a wealth of experience in Windows, Multimedia and Networking

CD ROM Multimedia Kits

NEW **ORCHID SOUNDWAVE MULTIMEDIA KIT** £319
Orchid soundwave 32 and Orchid CDS 3110 cd ROM drive. Complete with all cables & drivers

NEW **ORCHID SPECIAL PACK** £380
Orchid soundwave 32 and Orchid CDS 3110 cd ROM drive. Complete with all cables & drivers. Microsoft ENCARTA 1994

NEW **RENO PREMIER MULTIMEDIA KIT** £449
Media Vision portable CD ROM drive. Pro Audio 16 sound card, Labtec amplified speakers & 15 incredible software titles

PANASONIC SPECIAL PACK £179
Panasonic 562B internal CD ROM drive complete with 7th Guest

PANASONIC MULTIMEDIA KIT £349
Panasonic 562B internal, Soundblaster 16, speaker & microphone. Complete with 7th Guest

TOSHIBA 3401B QCD MULTIMEDIA KIT £479
Toshiba 3401 internal, Pro Audio Spectrum 16, speakers, microphone and presentation software

CALL FOR PRICES ON 1MB AND 4MB SIMM MODULES

Microsoft Titles

Microsoft OFFICE

Office 4.2 Standard Trade-in	£289
NEW Office 4.3 Prof. Trade-in	£340
NEW Office 4.3 Prof. Upgrade	£279
Standard Office 4.2 Upgrade	£185
NEW Access 2.0 FULL	£289
NEW Access 2.0 Upgrade	£115
Art Gallery	£33
NEW Bookshelf CD ROM	£69
NEW Creative Writer	£33
Dinosaurs	£33
Encarta 1994	£69
NEW Fine Artist	£33
Cinemania 1994	£32
Golf for Windows CD	£27
Musical Instruments	£33
Win for Workgroups 3.11	£39
Windows 3.1 Full	£65
Windows Upgrade	£39
Works for Windows 3.0 Full	£99
Works for Windows 3.0 U/g	£44
DOS V6.2 Upgrade	£44

Microsoft WINDOWS NT

Windows NT	£279
Windows NT Advanced Server	£799
CALL US – THE MICROSOFT EXPERTS	

CD ROM Titles

BUSINESS	
CorelDraw 4 CD	£275
Corel Photo CD Software	£12
Corel Power CD ROM	£89
EDUCATION	
Arthur Teaches Trouble	£28
Just Grandma And Me	£26
GAMES	
NEW 11th Hour (7th Guest sequel)	£52
7th Guest	£25
Chessmaster 3000 Pro	£18
Critical Path	£32
NEW Doom (3.5" floppy disk)	£45
NEW Dune with 7th Guest	£32
NEW Gabriel Knight	£31
Interactive Lovers Guide	£25
Jurassic Park	£24
Lawnmower Man	£33
Leisure Suit Larry VI (18)	£32
NEW Mega Race	£31
Microcosm	£34
Quantum Gate	£30
Rebel Assault	£32
NEW Sam and Max Hit The Road	£35
TFX Flight Simulator	£29
NEW Who Shot Johnny Rock?	£34

CALL US ON 081-449 6565 FOR MANY OTHER SOFTWARE TITLES.

We do not charge your credit card until the goods are despatched.
Delivery charges
U.K. Mainland 3 Day Service £6.00 U.K. Mainland Next Day £7.00
Europe 3 Day Service £15.00
Full Manufacturers warranty on all items. All prices exclude delivery and VAT at 17.5%

Media Technology Ltd
081-449 6565
All payments can be made with all major credit cards and bankers cards
VISA SWITCH

ACE #5000 Multimedia Modem

NEW **ACE #5000 UPGRADEABLE MULTI MEDIA BOARD** £299
One card comprising Fax/Modem, CD ROM interface, 16 bit sound board with Midi interface, Telephone answering with voice mail. Totally software upgradeable chip.

CALL FOR DETAILS ON 081-449 6565

CD ROM Drives

NEC

NEW **2XI CD ROM DRIVE** £167
Internal, dual speed, multisession

NEW **3XI MULTISPIN** £305
Internal, 3X speed, multisession

NEW **3XE CD ROM DRIVE** £389
External, 3X speed, multisession

NEW **3XP CD ROM DRIVE** £319
Portable, 3X speed, multisession

NEW **4XPRO CD ROM DRIVE** £689
External, 4X speed, multisession

AT SCSI BUS KIT £69
PARALLEL TO SCSI KIT £99

ORCHID
ORCHID CDS3110 CD ROM DRIVE £162

PHILIPS
CD ROM RECORDER CDD521 £2,949
External read/write SCSI drive
WIN ON CD £1,149
Windows based recording software

PIONEER
DRM 604X EXTERNAL £985
Quadraspin 6 disk caddy
DRM 602X £504
Dual speed 6 disk caddy

TOSHIBA
3401 BA INTERNAL £339
3401 SA EXTERNAL £435
The above come with SCSI card
3401 B INTERNAL BARE DRIVE £278
3401 S EXTERNAL BARE DRIVE £380

FUTURE DOMAIN
TMC 1680SVP (16 bit) £99
TMC 850 (8 bit) £43

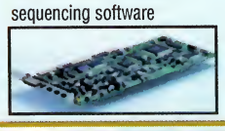
Sound and Video Cards

SOUND CARDS

ORCHID
Gamewave 32 £115
Soundwave 32 £159

CREATIVE LABS £185
Sound Blaster 16 ASP (SCSI-2)

ROLAND
NEW ATW10 Music Kit £329
ATW10 sound card with sequencing software



SC7 £218
External GM sound module
SCC1 £280
Internal GM sound module
Portable Sound System £132

VIDEO CARDS

ORCHID
NEW Videola digitial video card £314

INTEL
Intel Smart Video Recorder £379
One step capture and compression.

VIDEO LOGIC
Captivator Card with Video for Windows £245
With Video for Windows up to 30 FPS.
Captivator with Macromedia £279
NEW Hauppage WIN/TV Adaptor £314
Video capture card with teletext chip

VINE £284
Multigen Genlock Adaptor

CD ROM Networking

TOSHIBA 3404S TOWER £1,449
Toshiba 4 stack CD ROM drive tower for the advanced Network. (Toshiba 7 stack also available)

OPTINET CD NETWORKING OPERATING SYSTEM (1-8 USER)	£419
COREL SCSI NETWORK MANAGER	£375
COREL SCSI NETWORK MANAGER UPGRADE	£169
COREL SCSI VERSION 2.0	£89

MEDIA TECHNOLOGY LTD • MULTIMEDIA PROFESSIONALS • MEDIA TECHNOLOGY LTD

MAGIC MEDIA®

THE Multimedia SPECIALISTS

081 343 9933

SWITCH

MasterCard

VISA

DELTA

VIDEO BOARDS

ROMBO VIDI PC 24 CAPTURE CARD £178.00

HIGH QUALITY 24 BIT VIDEO DIGITIZING
UP TO 16.7 MILLION COLOURS & 256 GREYSCALES
IMAGES CAN BE GRABBED FROM MOVING PAL/COMPOSITE/S-VIDEO INPUTS
CAPTURE TIME OF LESS THAN 1 SECOND
FREE PHOTOFINISH EDITING SOFTWARE

ROMBO

ROMBO MEDIA-PRO PLUS MOTION CAPTURE CARD £223.00

FULL MOTION DISPLAY OF TV/VIDEO/SOUND FOR WINDOWS
CAPTURE AND EDIT REALTIME VIDEO IN 24 BIT COLOUR
UP TO 2 MILLION COLOURS DISPLAYED
INPUT FROM PAL/NTSC/COMPOSITE/S-VIDEO SOURCES
FREE PHOTOFINISH EDITING SOFTWARE
FULLY COMPATIBLE WITH MS VIDEO FOR WINDOWS

ROMBO VISION PACK £294.00

MEDIA PRO PLUS CARD
WITH TV TUNER MODULE

PC TO TV/VIDEO OUTPUT MODULE

PLUG IN LIGHTWEIGHT MODULE
USES EXISTING VGA/SVGA OUTPUT
DISPLAY ON TV OR VIDEO
UP TO 1024 x 768 16.7 MILLION COLOURS
IDEAL FOR PRESENTATIONS AND TRAINING

STANDARD VERSION **£96.00**
PROFESSIONAL VERSION **£236.00**

VINE micros — AUTHORISED DEALER

MULTIGEN GENLOCK ADAPTOR £272.00

USES EXISTING VGA/SVGA OUTPUT
MIX COMPUTER AND VIDEO IMAGES
WIPE AND FADE FACILITIES
FLICKER REDUCTION FILTER
IDEAL FOR VIDEO TITLING

INTEL SMART VIDEO RECORDER £362.00

RECORD AND COMPRESS VIDEO AT UP TO 30 FRAMES PER SECOND USES ON-BOARD I-750 PROCESSOR FOR REAL TIME COMPRESSION
TAKES JUST 9MB FOR 1 MINUTE OF VIDEO
FREE MS VIDEO FOR WINDOWS INCLUDED

VideoLogic AUTHORISED DEALER

PRO MOVIE STUDIO £242.00

REAL TIME COMPRESSION AT UP TO 30 FRAMES PER SECOND
INC PRODUCTION STUDIO SOFTWARE
IDEAL FOR CAMCORDER VIDEO EDITING

CAPTIVATOR £204.00

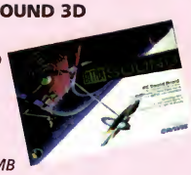
FULL MOTION VIDEO BOARD
FLEXIBLE, TRUE COLOUR IMAGES
SMOOTH FULL SPEED MOVIE PLAYBACK

REELMAGIC MPEG FMV PLAYBACK CARD £318.00

MPEG TECHNOLOGY TO DELIVER FULL SCREEN 32,000 COLOUR VIDEO
WATCH MOVIES ON YOUR PC SCREEN
DIGITAL VIDEO COMPATIBILITY WITH 50 FILMS BEING RELEASED IN '94
FREE GAMES SUPPLIED ON CD-ROM

SOUND CARDS

GRAVIS ULTRASOUND 3D V.3.4



CD QUALITY SOUND WITH 32 DIGITAL VOICES
256K ON BOARD MEMORY
UPGRADABLE TO 1MB
GAME AND MIDI PORT
POWER CHORDS AND MIDI SOFTWARE
IDEAL FOR MUSICAL COMPOSITION

STANDARD CARD **£118.00**
MEMORY UPGRADE (TO 1MB) **£32.00**
SCSI CD INTERFACE **£44.00**
MIDI ADAPTOR BOX **£33.00**

SOUNDVISION SOUND GOLD 16

SOUNDBLASTER, SB PRO, ADLIB, MSWSS 2.0 COMPATIBLE
16 BIT STEREO PLAYBACK 5KHZ TO 48KHZ
16 BIT STEREO RECORD
MIDI INTERFACE - MPU-401
3 CD ROM INTERFACES - PANASONIC SONY & MITSUMI
4 WATT PER CHANNEL
POCKET TOOLS SOFTWARE
OPL3, 20 VOICE SYNTHESIZER
ADPCM & ESPCM COMPRESSION
ON BOARD DIGITAL MIXING
OPL4 AVAILABLE UPGRADE

INTERNAL **£84.00**

UPGRADE Options
AUTHORISED DEALER

MULTIMEDIA ACCESSORIES	
DISK CADDY	£4.00
KODAK PHOTO CD SOFTWARE	£14.00
SOUNDBLASTER DEVELOPERS KIT	£47.00
MIDI ADAPTOR KIT	£21.00
JOYSTICK SPLITTER CABLE	£9.00
MICROPHONE	£9.00
HEADPHONES	£8.00
CD LIBRARY CASE	£5.00
JOYSTICKS	
GRAVIS ANALOGUE PRO	£31.00
GRAVIS ANALOGUE	£26.00
CH FLIGHTSTICK	£30.00
CH MACH 2	£22.00
G-FORCE YOKE	£35.00
LOGIPAD EXTRA	£18.00
QUICKSHOT WARRIOR 5	£12.00
XT/AT GAME CARD	£12.00

THE •MAGIC MEDIA• PROMISE
WE WILL BEAT ANY ADVERTISED PRICE!!
SUBJECT TO STOCK

Labtec
SPEAKERS

CS-150 WITH POWER BOOST	£17.00
CS-550 WITH 4W POWER BOOST	£21.00
CS-800 WITH 3 BAND EQUALIZER	£48.00
CS-1000 UNDER MONITOR UNIT	£58.00
ZIFI VERSION 2	£29.00
ZIFI PROFESSIONAL	£48.00
PINE AMPLIFIED WITH BASS	£11.00
SCREENBEAT INC MONITOR BRACKETS	£19.00

CD ROM DRIVES

PANASONIC CR-562B

THE BEST SELLING CD-ROM DRIVE
320MS ACCESS TIME
300KB PER SECOND TRANSFER RATE
MULTISESSION AND TWINSPEED
MPC II COMPLIANT
DIRECT CONNECTION TO SOUNDBLASTER RANGE
INCLUDES DRIVER SOFTWARE AND CABLES

INTERNAL **£142.00**
EXTERNAL **£189.00**
INTERFACE KIT **£19.00**

TOSHIBA 3401B/S

THIS DRIVE COMPLIES TO EVERY STANDARD
200MS ACCESS TIME
330KB PER SECOND TRANSFER RATE
MULTISESSION AND TWINSPEED

INTERNAL **£278.00**
EXTERNAL **£370.00**
ISA SCSI CARD **£47.00**
MCA SCSI CARD **£94.00**
TOSHIBA 4101 ALSO AVAILABLE - CALL FOR PRICES

CD-ROM TEN PACK

PC KARAOKE
TIME MAN OF THE YEAR
PC ANIMATION FESTIVAL
KINGS QUEST V
WORLD ATLAS
WORLD FACTBOOK
STELLAR 7
DOOM
BEST MEDIA CLIPS
CD ROM OF CD ROMS

PACK PRICE £49.00
OR £42.00 WITH ANY CD-DRIVE

MITSUMI FX-001D £151.00

THE ORIGINAL DRIVE JUST GOT BETTER
250MS ACCESS TIME
300KB PER SECOND TRANSFER RATE
MULTISESSION AND TWINSPEED
INCLUDES 16-BIT INTERFACE CARD
MOTORISED TRAY

SONY CDU331A £134.00

TRAY LOADING
TWIN SPEED & MULTISESSION
DIRECT CONNECTION TO SOUNDBLASTER16 MCD AND ORCHID SOUND/GAME WAVE
INCLUDES DRIVER SOFTWARE & CABLES

PIONEER DRM-602X £498.00

NEW TWINSPEED DRIVE
6 DISC JUKEBOX STYLE AUTOCHANGER

PIONEER QUAD DRM-604X £948.00

QUADSPEED TOWER DRIVE
6 DISC JUKEBOX STYLE AUTOCHANGER
DISC CHANGE TIME OF LESS THAN 5 SECS
610KB PER SECOND TRANSFER

THERES MORE TO SCREEN SAVERS THAN IMAGES FLOATING INERTLY ACROSS YOUR SCREEN

DOUBLE DOOZY £12.99
20 PSYCHOTIC ANIMATED SCREENS
25 TASTEFUL WALLPAPERS
50 KOOKY ICONS

DINOMANIA £12.99
6 ANIMATED JURASSIC SCREENS
10 FABULOUS WALLPAPERS
25 INCREDIBLE DINO ICONS

MEDIA VISION

MEDIAVISION PORTABLE PC AUDIOPORT £132.00
BRING THE POWER OF SOUND TO YOUR PORTABLE PC - USE ON ANY STANDARD PARALLEL PORT - COMPACT , TO FIT IN YOUR SHIRT POCKET DIGITAL AUDIO PLAYBACK AND RECORD - BUILT IN SPEAKER - MICROPHONE INPUT AND AUDIO OUTPUT WITH VOLUME CONTROL - ADLIB AND SOUNDBLASTER COMPATIBLE

MEDIAVISION PRO SONIC 16 BASIC £78.00
16-BIT QUALITY AT THE PRICE OF A 8-BIT CARD - STEREO DIGITAL AUDIO RECORDING AND PLAYBACK -ON-BOARD FM SYNTHESISER - GAME AND MIDI PORT - FULLY SOUNDBLASTER PRO COMPATIBLE - PANASONIC CD-ROM INTERFACE

MEDIAVISION PRO AUDIOSPECTRUM 16 £98.00
THE WORLDS BEST SELLING 16-BIT SOUND CARD -TRUE 16-BIT 44.1KHZ STEREO CAPABILITY - GAME AND MIDI PORT - FULLY AD-LIB AND SOUNDBLASTER COMPATIBLE - MPC AND WINDOWS 3.1 SUPPORT

MEDIAVISION PRO AUDIOSTUDIO 16 £134.00
BASED ON THE AUDIOSPECTRUM 16 CARD - BUILT IN SCSI CD-ROM INTERFACE - SELECTABLE INPUT GAIN FOR VERSATILE RECORDING - EXECUVOICE VOICE RECOGNITION SOFTWARE - COMPUTER MOUNTED MICROPHONE FOR VOICE CONTROL

CREATIVE

SOUNDBLASTER V.2	£43.00
SOUNDBLASTER PRO BASIC	£58.00
SOUNDBLASTER PRO VALUE	£62.00
SOUNDBLASTER 16 VALUE	£79.00
SOUNDBLASTER 16 MULTI CD	£118.00

SOUNDBLASTER 16 MULTI CD ADSP	£139.00
SOUNDBLASTER 16 SCSI-2	£139.00
SOUNDBLASTER 16 SCSI-2 ADSP	£162.00
SOUNDBLASTER 16AWE2	£208.00
VIDEO BLASTER SE	£214.00
VIDEO SPIGOT	£212.00
WAVE BLASTER	£138.00
CD16 UPGRADE KITS	£424.00

OMNI CD	£248.00
MIDI BLASTER	£158.00
ADSP CHIP UPGRADE	£46.00

FREE SPEAKERS WITH ALL SOUNDCARDS

ORCHID

ORCHID SOUND PRODUCER	£42.00
ORCHID SOUND PRODUCER PRO	£78.00
ORCHID GAMEWAVE 32	£124.00
ORCHID SOUNDWAVE 32	£154.00
ORCHID CDS-3110 CD-ROM DRIVE	£162.00
ORCHID SCSI CHIP UPGRADE	£22.00
ORCHID VIDIOLA CAPTURE CARD	£284.00

MAGIC MEDIA®

THE Multimedia SPECIALISTS

TECHNICAL SALES
081 343 9933
(25 LINES)

TECHNICAL SUPPORT
081 446 3966

CUSTOMER SERVICE
081 446 2508

FAX LINE
081 446 4313

NEC CD-ROM RANGE

FROM DOUBLE TO QUAD SPEED, THE NEW NEC RANGE IS FAST SETTING THE STANDARDS.

MULTISPIN 3Xp £298.00
PORTABLE VERSION OF 3XE
250MS ACCESS TIME
450K PER SECOND TRANSFER
FULL FUNCTION CONTROL

MULTISPIN 2XI £149.00
INTERNAL MODEL
320MS ACCESS TIME
MULTISESSION AND TWINSPEED
AUTO LENS CLEANING

TRIPLE 3Xi £290.00
INTERNAL MODEL
TRIPLE SPEED
195MS ACCESS TIME
MPC I AND II COMPLIANT

TRIPLE 3Xe £358.00
EXTERNAL MODEL
TRIPLE SPEED
195MS ACCESS TIME
MPC I AND II COMPLIANT

MULTISPIN 4X PRO £629.00
AMAZING EXTERNAL QUAD SPEED DRIVE
180MS ACCESS TIME
600KB PER SECOND TRANSFER
256K CACHE MEMORY
AUTO LENS CLEANING

081 343 9933

OPEN 6 DAYS A WEEK
Mon-Fri 8am - 7pm
Saturday 10am - 2pm
PERSONAL CALLERS WELCOME
Student Discounts Available
If you're an education authority, government establishment or quoted PLC
Just Fax or send your order

MAGIC MEDIA®

THE Multimedia SPECIALISTS

081 343 9933

386/486 MEMORY KITS

MEMORY MATCHED KITS SUPPLIED WITH FITTING INSTRUCTIONS & ANT-STATIC WRIST STRAP

ACER 1120SX,1200
AMSTRAD 1386,2386,3386, 7386,7486
COMPAQ PROLINEA
COMPUADD 386,486
DAN TECHNOLOGY 386,486
DELL 300,310,316SX,320
DEC PC333,433
ELONEX 386,486,SX/16/M/V/B
EVEREX 386,486
GATEWAY 386,4SX-33, 4DX-33/66/V/P
GOLDSTAR 312,322,486
IBM AMBRA
ICL 50,55
MITAC DESKTOP 386,486
MJN 386,486
OLIVETTI PCS386,M300,M380, M400-10/40/60,M480-10/20
OLYMPIC 386,486
PACKARD BELL 316,386, 416,486
REEVES 386,486
TANDON SL386,PAC,386N, 386SX,486
VIGLEN GENIE SX20,3LS, II25/33
VIGLEN 4SX25,4DX33,4DX50, 4DX2-50/66
WYSE 386/16S,PW386/8/20/25

2MB KIT £66.00
4MB KIT £130.00

8MB & 16MB KITS PLEASE CALL

286 MEMORY KITS

MEMORY MATCHED KITS SUPPLIED WITH FITTING INSTRUCTIONS & ANT-STATIC WRIST STRAP

ACER 100LX,113
AMSTRAD 1286,2286,3286, 5286
COMMODORE PC40,PC50
DELL 200,210,220
ELONEX 286M,286C
EVEREX 286
ICL 30,40,50
OLIVETTI PCS286,M250,M290
PACKARD BELL LEGEND 200
TANDON SL286,PAC,286N
TIKO 286
VIGLEN GENIE II,ELITE

2MB KIT £84.00
4MB KIT £162.00

8MB & 16MB KITS PLEASE CALL

LASER PRINTER MEMORY

APPLE LASERWRITER II/NTX
1MB £84.00
4MB £164.00
BROTHER HL4/HL4V
1MB £78.00
2MB £116.00
4MB £180.00
BROTHER HL8/E/V/HL10
1MB £85.00
2MB £126.00
CANON LBP4/4+/LITE/SX
1MB £85.00
2MB £124.00
CANON LBP8II/RT
1MB £78.00
2MB £112.00
4MB £157.00
EPSON (FULL RANGE PLEASE CALL)
HP LASERJET II/IID
2MB £90.00
4MB £161.00
HP LASERJET III/IIID/IIIP
2MB £89.00
4MB £155.00
HP LASERJET III/SI/IV
1MB £66.00
2MB £97.00
4MB £141.00
IBM 4019/E
2MB £89.00
3.5MB £133.00
IBM 4029/E
2MB £79.00
4MB £164.00
IBM 4039/4079
4MB £214.00
8MB £396.00
KYOCERA F800
1MB £89.00
2MB £136.00
KYOCERA F1000
1MB £121.00
KYOCERA F1200S/2200/3000 /3300/5000
1MB £89.00
2MB £121.00
MANNESMAN TALLY MT905/904
2MB £125.00
4MB £194.00
OKI LASER 400E/400EX/410EX
1MB £116.00
OKI LASER 400
1MB £67.00
2MB £87.00
OKI LASER 800/820/840
2MB £114.00
OKI LASER 830/840
2MB £126.00
PANASONIC 4420/4450
1MB £56.00
2MB £86.00
PANASONIC 4430
1MB £98.00
SHARP JX-9500/PS
1MB £67.00
2MB £148.00
4MB £226.00
STAR LP4/LP8
1MB £104.00
2MB £131.00

SIMMS

1M X 9 £34.00
4M X 9 £123.00

SIPPS

1M X 9 £44.00
4M X 9 £158.00

DRAMS

256 X 1 £2.50
256 X 4 £4.60
1M X 1 £4.80
1M X 4 £16.20

PCMCIA

SUITABLE FOR AMSTRAD NC100/HP 95LX/POQUES PC/SHARP/MITAC

128K CARD £26.00
256K CARD £55.00
512K CARD £86.00
1MB CARD £126.00
2MB CARD £189.00

MEMORY EXPANSION BOARDS

KINGSTON ATA BOARDS. FOR PC'S WITH NON-UPGRADABLE MOTHER BOARDS. ALL BOARDS CAN BE POPULATED UPTO 16MB.

WITH 2MB INSTALLED £130.00
WITH 4MB INSTALLED £190.00
WITH 8MB INSTALLED £320.00

PORTABLE MEMORY

AMSTRAD ANB 386SX
4MB £199.00
COMMODORE LT286/386
EVEREX TEMPO
SANYO NB17/18
2MB £88.00
4MB £174.00
PANASONIC CF170/270/370
1MB £79.00
LIBREX V386SX
4MB £224.00
IBM P75/56SX/56LS/ 56SLC/57SX
2MB £97.00
4MB £153.00
8MB £289.00
IBM THINKPAD 350/700/710/720/750
2MB £134.00
8MB £389.00

Kingston TECHNOLOGY CORPORATION

IBM MEMORY

PS/1 286/386/PRO
2MB £87.00
4MB £159.00
PS/2 25-286/30-286
2MB £125.00
4MB £241.00
PS/2 35/40/56/57
2MB £93.00
4MB £162.00
8MB £318.00
PS/2 50/50Z/55/60/65/70
2MB £79.00
4MB £146.00
8MB £318.00
PS/2 80/90/95
2MB £93.00
4MB £162.00
8MB £318.00
VALUEPOINT 6381/6382/6384
4MB £155.00
8MB £294.00

ADAPTOR BOARDS FOR PS/2 SYSTEMS WITH NON-UPGRADABLE MOTHERBOARDS

PS/2 50/50Z/60/70/80
16MB BOARD WITH 2MB POPULATED £232.00
16MB BOARD WITH 4MB POPULATED £292.00
16MB BOARD WITH 8MB POPULATED £422.00

DELL MEMORY

325/D/P/333/D/P
4MB £139.00
8MB £278.00
16MB £467.00
486D/P/420/425/433/450/ 466/S/M/L/TE/SE
2MB £84.00
4MB £139.00
8MB £264.00
16MB £498.00
320N/212N
2MB £134.00
NL20/NL25
2MB £108.00
320SLI
512K £84.00
1MB £146.00

TOSHIBA MEMORY

T1000/E/XE/LE
T1200XE
T1600/T5100
T1800/T1850/C
T2000SX/E/T2200SX/E
2MB £89.00
4MB £163.00
8MB £294.00
T3100/E/SX
2MB £95.00
4MB £165.00
T3200SX/C
2MB £94.00
4MB £173.00
8MB £344.00
T3200
3MB £166.00
T4400/T6400/DX/C
2MB £84.00
4MB £178.00
8MB £324.00
T4500/T4600/T3400CT
T4700CT/T1950CT
8MB £389.00
T5200/C/T8500
2MB £89.00
8MB £369.00
12MB £454.00

ZENITH MEMORY

Z386/20/25/33/33E
1MB £46.00
2MB £67.00
4MB £136.00
SUPERSPORT 286/286E
1MB £64.00
2MB £97.00
MASTERSPORT 386SX/SL
2MB £94.00
4MB £189.00
TURBOSPORT 286/E/386/E
1MB £128.00
2MB £179.00
Z-NOTE 320/325
1MB £108.00
2MB £394.00

COMPAQ MEMORY

286N/386N/386S20/325I/3/ 33/425IS
2MB £79.00
4MB £139.00
8MB £244.00
38616/20/25/E/S
1MB MODULE £94.00
4MB MODULE £198.00
1MB BOARD £114.00
4MB BOARD £248.00
SYSTEMPRO 486/ DESKPRO 486
2MB MODULE £89.00
4MB MODULE £167.00
8MB MODULE £286.00
64MB BOARD WITH 2MB £182.00
64MB BOARD WITH 4MB £288.00
64MB BOARD WITH 8MB £434.00
PROLINEA 4/25S/4/33/4/50/4/66
2MB £79.00
4MB £139.00
8MB £244.00
CONCERTO 4/25/4/33
8MB £428.00
16MB £1164.00
CONTURA 3/20/3/25/3/25C
2MB £77.00
4MB £154.00
8MB £286.00
SLT 286
1MB £94.00
4MB £224.00
SLT 386S/20
1MB £74.00
2MB £118.00
4MB £172.00
LTE 386S/20/LITE
1MB £77.00
2MB £89.00
4MB £184.00
8MB £336.00

MATHS CO-PROCESSORS

INCREASE THE SPEED OF YOUR MATHS INTENSIVE APPLICATIONS.

80287-XL (12MHZ) £36.00
80387-16SX (16MHZ) £39.00
80387-20SX (20MHZ) £42.00
80387-25SX (25MHZ) £42.00
80387-33SX (33MHZ) £48.00
80387-16DX (16MHZ) £48.00
80387-20DX (20MHZ) £51.00
80387-25DX (25MHZ) £52.00
80387-33DX (33MHZ) £52.00
80387-40DX (40MHZ) £54.00

CALL IF YOUR UPGRADE IS NOT LISTED

WE ALSO SUPPLY MEMORY FOR:
AMSTRAD • APPLE • AST • AT & T • COMMODORE • DEC • GOLDSTAR • KAMCO • MIN • MULTIPLEX • NCR • NEC • H/P • OPUS • PANASONIC • TANDY • TI • UNISYS • VALE • WYSE • VIRGIN

CALL TO CONFIRM PRICING DUE TO THE EXCHANGE RATE FLUCTUATION AND WORLD-WIDE SHORTAGES

CD-ROM TITLES

OVER 5000!

TITLES IN STOCK

NEW TITLES ARRIVING DAILY

PLEASE CALL IF THE TITLE YOU REQUIRE IS NOT LISTED

ENTERTAINMENT

7TH GUEST	£35
B17 SILENT SERVICE	£29
BENEATH THE STEEL SKY	£29
BATTLECHESS MPC	£22
BLUE FORCE	£29
CARMEN SANDIEGO	£28
CHESSMASTER 3000	£22
CHESSMANIAC	£29
CONSPIRACY	£31
DAY OF TENTACLE	**£28**
DRACULA UNLEASHED	**£25**
DUNE	£29
EYE OF BEHOLDER	£29
GABRIEL KNIGHT	£29
GOBLINS 3	**£34**
GOLDEN SEVEN	£34
INDIANA JONES IV	£28
INCA II	**£29**
IRON HELIX	**£28**
JUTLAND	£33
JURASSIC PARK	**£24**
JOURNEYMAN PROJECT	**£31**
KINGS QUEST VI	£25
LANDS OF LORE	£31
LAWNMOWER MAN	£29
LAURA BOW II	£29
LOOM	£22
MADDOG McREE	**£27**
MECHWARRIOR	**£29**
MICROCOSM	**£33**
NAVAL STRIKE FIGHTER	**£30**
QUANTUM GATE	**£31**
REBEL ASSAULT	**£31**
RETURN TO ZORK	**£27**
SECRET WEAPONS	£24
SHADOW OF THE COMET	£28
SHERLOCK I	£18
SHERLOCK II	£31
SHERLOCK III	£36
SPACE ADVENTURE	£30
SPACE QUEST IV	£22
STARTREK 25TH	£28
STELLAR 7	£22
STRIKE COMMANDER	**£26**
TORNADO	**£31**
T.F.X.	**£29**
WACKY FUNSTERS	£18
WILLY BEAMISH	£25

REFERENCE

ANIMALS IN MOTION	£15
ART GALLERY (MICROSOFT)	£33
CIA FACTBOOK	£20
COLOSSAL COOKBOOK	£14
COMPOSER QUEST	£19
DESERT STORM	£28
FAMILY DOCTOR	£19
GREATEST BOOKS	£27
MOVIE MADNESS	£28
VIDEO GUIDE 1993	£19

MUSIC

COMPOSER QUEST	£14
JAZZ MULTIMEDIA TOUR	**£41**
MS BEETHOVEN	£35
MS MOZART	£35
MS STRAVINSKY	£35
MS INSTRUMENTS	£36
EA MOZART	£24
SOUND WAVE	£12
SOUND EXPLORER	£19

EDUCATION

AMARDA STORIES	£34
ANIMALS MPC	£29
ARTHUR TEACHES	£29
CREEPY CRAWLIES	£38
CREATIVE KIDS RANGE	**£21**
DINOSAUR ADV.	£28
ELECTRICITY	£35
J.F.K. ASSINATION	**£32**
MAMMALS	£79
MAVIS BEACON	£24
OCEAN LIFE	£22
PUTT PUTT	£29
SPELLBOUND	£34

ENCYCLOPEDIAS

AMERICAN HERIT.	£48
ANIMAL ENCY	£39
COMPTONS INTERACTIVE	**£99**
DICTIONARIES	£14
DINOSAURS ENCY	£42
GUINESS RECORDS	£34
HUTCHINSONS	£68
MS ENCARTA 1994	**£74**
MS BOOKSHELF	**£49**
MULTIMEDIA ENCY	£219
McMILLAN DICT	£28
SOUND ENCY	£12

LANGUAGES

BERLITZ FRENCH	**£86**
BERLITZ GERMAN	**£86**
BERLITZ ITALIAN	**£86**
BERLITZ SPANISH	**£86**
GAMES IN FRENCH	£20
GAMES IN GERMAN	£20
GAMES IN ENGLISH	£20

GEOGRAPHY

GLOBAL EXPLORER	£72
GREAT CITIES II	£30
GREAT CITIES III	£38
LONDON	£29
MAJESTIC PLACES	£24
WORLD ATLAS V.4	£23
WORLD FACTBOOK	£14
WORLD TRAVELLER	£14
WORLD VIEW	£24
WORLD VISTA	£39

SCIENCE

AMAZING UNIVERSE	£39
CREEPY CRAWLIES	£38
LIVING WORLD	£79
OCEAN LIFE I	£22
OCEAN LIFE II	£22
DEEP VOYAGE	£22
DINOSAURS	£42
FOREVER GROWING	**£28**
FAMILY DOCTOR	£19
HAM RADIO	£14
SPACE HISTORY	£24
SPACE ADVENTURE	£29
TROPICAL FORESTS	£22
VIEW FROM EARTH	£39
VITAL SIGNS	£44

ART & DTP

ART GALLERY (MICROSOFT)	£33
BUSINESS BACKGROUNDS	£22
CLIPART GOLIATH	£10
CLIPART WHAREHOUSE	**£10**
FONT FUN	£24
FONTMASTER	£22
GIFS GALORE	£17
JETS AND PROPS	£24
LIBRARY CLIPART	£29
MANY TYPEFONTS	£10
PUBLISH IT!	£68
RENAISSANCE I or II	£33
WILD PLACES	£24
WOMEN OF VENUS	**£19**

SHAREWARE

ANIMATION FESTIVAL 1994	**£19**
BIBLES & RELIGIONS	£10
BRAIN DRAIN	£10
CICA WINDOWS	£10
CLIP ART	£10
COLOSSAL COOK	£10
DEATHSTAR ARCADE	£10
FUTURA	£13
GAMES COLLECTION 1993	**£13**
GAME PACK II	£18
GIF IT	£10
GOLD COLLECTION 1993	**£13**
HAM RADIO	£10
JUST GAMES	£12
MEGA CD	£12
PIXEL PERFECT	£12
PREMIER SHARE	£10
SELECTWARE	£10
SOUND LIBRARY	£14
SOUND SENSATIONS	£10
SHAREWARE EXTRA	£49
SHAREWARE OVER	£10
SUPER CD	£10
TECHNO TOOLS	£10
VGA SPECTRUM	£19
WINDOWS COLLECTION 1993	**£13**
WALKTHROUGHS/FLY-BY'S	£24

WHY MAGIC MEDIA ?

•BUY WITH CONFIDENCE•
RELIABLE LEADING BRAND PRODUCTS TO GUARANTEE QUALITY AND LONG TERM SUPPORT

•EXPERIENCED STAFF•
FOR FRIENDLY ADVICE ON ALL YOUR MULTIMEDIA REQUIREMENTS

•FREE TECHNICAL SUPPORT•
FULLY TRAINED TECHNICAL DEPARTMENT TO ASSIST YOU WITH YOUR QUERIES

•FAST RELIABLE SERVICE•
GOODS DELIVERED DOOR-TO-DOOR
OVER 96% OF ORDERS DISPATCHED THE SAME DAY

Delivery Charges:		
	UK Mainland next day	£5.00 + V.A.T
	UK Mainland (3 to 5 days)	£3.50 + V.A.T
	Europe 5 day service	£7.00 + V.A.T

FREE DELIVERY
ON ORDERS OVER £150.00 + V.A.T.
(U.K. Mainland Only 3 to 5 day service)

Order Direct To: Magic Media, *Brent House, 24-26 Friern Park, North Finchley, London N12 9DA*

DESCRIPTION	QTY	PRICE
		£
		£
		£
	Add P&P + VAT at 17.5%	£
	TOTAL	£

I enclose a cheque for £ made payable to Magic Media or Please debit my Mastercard/Visa/Switch/Delta

Number Expires

Name Company

Address

Postcode

Telephone No Fax No

MAGIC MEDIA®

THE *Multimedia* **SPECIALISTS**

081 343 9933

BS 5750 APPLIED FOR
THE SUPPLY OF COMPUTER & PRINTER MEMORY & PROCESSOR & MULTIMEDIA UPGRADE

Prices & products are subject to change & availability. All trademarks & trade names are the property of their respective manufacturers & owners.

All prices exclude VAT

10% restocking fee for returned non-defective goods

©FTC Graphics Ltd 1994

Hooray Henri!

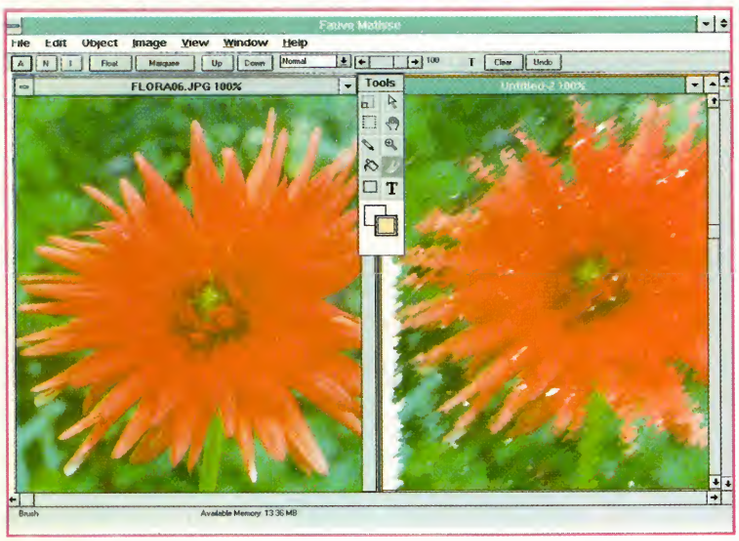
Want to paint like the impressionists? Roger Shezall dips into Fauve Software's Matisse – a paint package that could change your ideas about digital imaging

IF YOU installed the greyscale version of Fauve Matisse, which we included free on last month's cover disk, you'll know it already – even in mono, this is one very special art package. But in glorious 24-bit colour, it's just what your PC's monitor was made for!

Use it to create your own paintings and illustrations in a rich variety of media from felt pens to oil paints, watercolours to pastels, charcoal to crayon.

Retouch photo images or convert them to paintings – either manually, or select Autopaint and simply watch it happen. Add countless special effects and textures in an object-oriented package that opens up new ways of working with form and colour.

Big, bright, colourful and packed with features, Fauve Matisse will broaden your artistic horizons in a ways that begin where many other paint programs leave off.



Choose the image, set the style and let Autopaint do all the work

Artistic Impressions

IF YOU have any interest at all in art, there's plenty in Fauve Matisse to keep you hooked. But my favourite feature of all is the Autopaint function. This could just as easily be called the Lazy Painter's option, and it's positively addictive.

You first select an image that you want to have repainted. It could be a scanned photograph or another painting. Then you decide what type of paint style, brush and canvas you want. In a duplicate window you make a single brush stroke using the mouse. This becomes the stroke style. Now you just sit back and watch as the program repaints the entire image.

Some of the brush styles can take an age to complete the picture but, if you prefer, you can use the Stamp Tool to run this effect under your own control. You simply make all the strokes with the mouse for the picture to appear.

HENRI Matisse and a few of his chums were a group of French artists who rocked the established art world with their bold and outrageous use of colour. Critics christened them Les Fauves – the wild beasts – because of their unorthodox ways.

Right up until he hung up his brushes for good in 1954, old Henri continued to experiment with colour, form and perspective, pushing back further and further the established boundaries of artistic expression. And that's exactly what you'll be able to do with a little imagination and Fauve Matisse installed on your system.

This package does two main jobs. You can use it to produce your own works of art, straight out of your head and on to the paper. Or you can use it as an image editor or electronic darkroom to re-touch, enhance, modify or combine bitmap images created or imported from elsewhere.

"...a tremendous amount of power"

For its price, Fauve Matisse packs a tremendous amount of power and contains a good many features normally found in expensive high-end packages. Professional designers would appreciate many of the image editing functions and the fact that you can manipulate, then output, colour separations.

What's more, the package is TWAIN compliant so it will talk direct to most scanners. And it is configured to take advantage of a digitising tablet and stylus, something that really opens the doors to creative freedom.

But what's in this package for the home user? For starters, the painting options are a delight. A big, colourful brush palette lets you choose from a wide range of illustrative styles that look on screen just like their real life counterpart.

This palette is split into two halves with Brush categories such as Draw, Paint and Stamp – a cloning tool – running down the left. When you select one of these, the right hand side of the palette changes to reveal the style options available.

Plenty of styles are available and each is then minutely adjustable for attributes such as size, shape, texture, bleed, opacity and more. So much more, in fact, that it's well worth spending time just doodling to see the wide variety of extraordinarily life-like results you can get. Once you start to get the hang of the painting options, you can use some of the other powerful features to enhance your work.

A real drag

YOU can have several images open at once and, because Fauve Matisse is an object-oriented package, you can select individual elements from an image and drag them into new positions. You can even drag and drop from one image to another. This is a rare and unusual feature in a paint program and one which presents all kinds of new design opportunities. An object is selected by using one of the marquee tools to put an invisible boundary around it. You can then move it, put it behind or in front of another object, or just work exclusively on it with the painting tools. The rest of the image acts like a mask and you can't accidentally paint over it.

You organise images by storing them in folders. When you open a folder you'll see colour thumbnails of each masterpiece. Simply double clicking expands an image up to its full size. Folders can be left on screen but, as there are several other screen features, I wouldn't recommend it.

As well as the tool and brush selection palettes you can also view palettes for brush shape, brush options, current pattern, current texture and colour selection. Together they tend to give a somewhat crowded work area,

Store your works of art in folders like this, then just click to open

so I stayed with just the tools, brushes and colour selector.

Colour in Fauve Matisse is available in RGB, CMYK or HLS models. The first is the way colour is created in a cathode tube – your monitor – from red, green and blue.

CMYK is the model used in commercial printing the world over, where colour images are composed of cyan, magenta, yellow and keyline (black). While HLS stands for hue, lightness and saturation.

Whichever you choose to work with, you'll get an on-screen palette from which you can select colours. You can also create and save palettes of selected shades and even use them to colourise greyscale images automatically. The results can be a bit unpredictable, but generate some interesting effects.

Painting for effect

FAUVE Matisse contains a whole gallery of special effects which can be applied to all, or a selected part, of an image. A number of tuning filters are used to compensate for under or over-exposure, contrast, brightness, colour fade-out and so on.

But the real fun starts with the package's convolution filters. With these effects you can be so outrageous you could probably have been a fully paid-up member of Matisse's gang. You can blur, ripple, swirl, emboss, sharpen, mosaic, diffuse and shatter any image you like. What's more, just like the brush options, each effect is infinitely variable.

When you choose an effect a dialog box pops up containing a small version of the current image and a preview window. So you can adjust the parameters of the effect, preview it until you arrive at the required effect, then apply it to the image.

The term *convolution* in image processing defines a class of filters created from a table of numbers. By simply adjusting the elements of this table, you can create filters to achieve any number of weird and wonderful effects.

Should you want even more special effects, the package supports Aldus Photostyler compatible plug-in filters, available from third-party vendors.

With a friendly interface that offers real power and precision, Fauve Matisse is a feature-packed, highly entertaining package that can keep you absorbed for hours on end. Were Matisse himself alive today, I think he would have said, *Oui!* PCH

Product	**Fauve Matisse**
Price	**£99**
Supplier	**CGS**
Telephone	**081-679 7307**
✔	**Realistic paint effects in object-oriented package**
✘	**Needs 4Mb ram**
PCH **Verdict**	★★★★★☆

Objects of desire

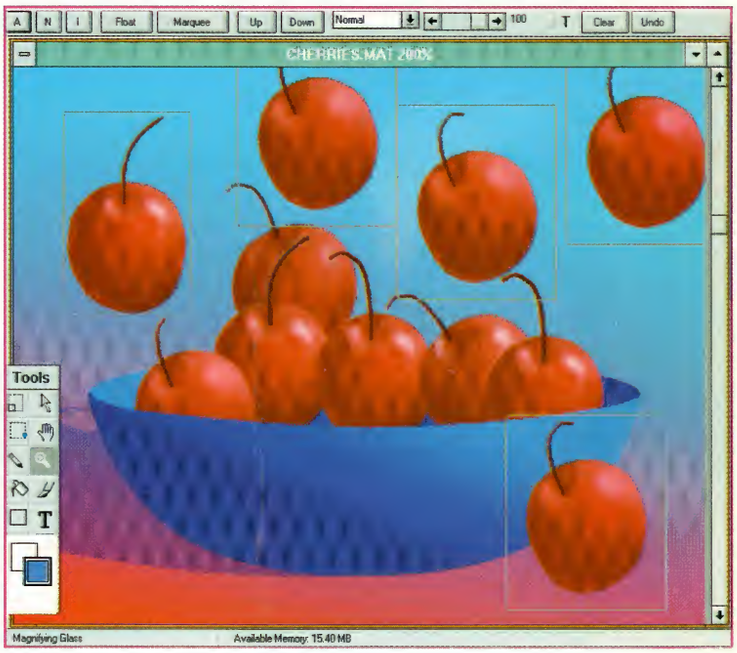
THE one feature which really singles out Fauve Matisse from the opposition is the way it can work with objects. With most paint programs what you put down on the canvas stays put. You can paint over it or maybe erase it, but you certainly can't move it around as you can here.

An object is anything you choose by drawing a marquee box around it. This separates it from the background so that it becomes a floating image which you can drag anywhere you like – even from one picture window to another.

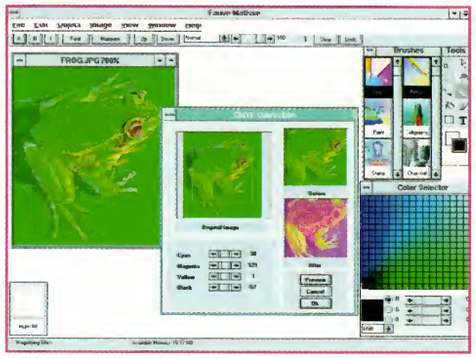
For example, you might be illustrating a bowl of cherries. You spend some time painting one cherry that looks good enough to eat then select it as an object. Now, just like in a drawing program, you can duplicate, flip, rotate and resize it so that you now have a whole bunch of cherries all based on the original.

Take each cherry object and place it in the bowl object you have created. As you can move objects behind or in front of others, you can arrange the fruit until you are satisfied with the composition, then select them all and use the merge command to make their positions permanent.

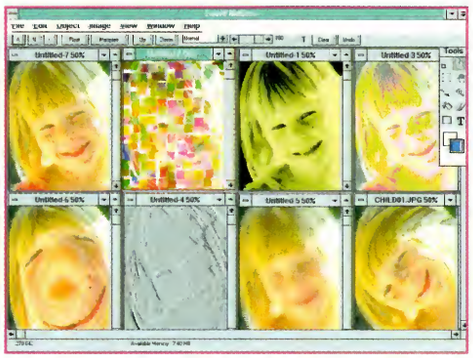
Individual objects can be edited in numerous ways including skewing, distorting, tilting and even given perspective. They can also be positioned accurately by using the Snap to Grid or Align commands. It's a whole new way of working in a paint program, and one of which I'm sure old Henri would have approved.



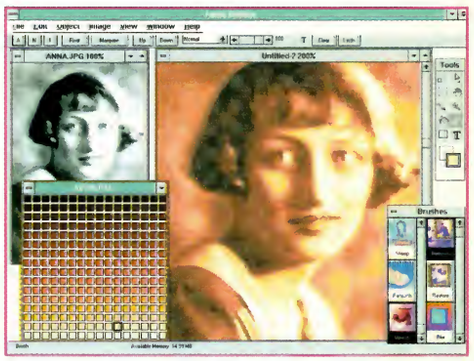
What life is when you can treat elements of your picture as objects



Preview special effects before you apply them and stay one jump ahead

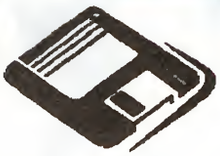


This is what little girls are made of when you get into the special effects



You can automatically colourise any greyscale image – just choose a palette

WAITED A LONG TIME? CHARGED ON YOUR CREDIT CARD & STILL NO SOFTWARE?
THESE PROBLEMS DO NOT HAPPEN AT RUBYSOFT.
WE HAVE NEVER IN 3 YEARS DEBITED A CREDIT CARD AND NOT SUPPLIED THE GOODS.



RUBYSOFT (UK) LTD

☎ 071 381 8998 071 610 1703 ☎

PC CHARTBUSTERS ALL 3.5" DISKS

A TRAIN	£16.99
A320 AIRBUS USA	£29.99
A320 AIRBUS APPROACH TRAINER*	£29.99
ACES OVER EUROPE	£28.99
ACES OF THE PACIFIC + ADD ON WW2 1946	£28.99
AIR COMBAT CLASSICS GREAT COMP	£35.99
AIRLINES	£24.99
ALIEN BREED	£21.99
ALONE IN THE DARK	£19.99
ALONE IN THE DARK & JACK	£29.99
ALONE IN THE DARK 2	£32.99
AMBUSH	£26.99
AMBERMOON*	£23.99
ARMOURED FIST*	TBA
AWARD WINNERS 2	£24.99
B17 & DOGFIGHT IT'S A GIFT!	£32.99
BATTLE ISLE 2* 21/4*	£26.99
BATTLE ISLE 93	£19.99
BEAUTY AND THE BEAST SPECIAL INTRO PRICE	£21.99
BENEATH A STEEL SKY* 31/3*	£26.99
BETRAYAL AT KRONDOR	£28.99
BLADE OF DESTINY	£29.99
BLOODNET*	£29.99
BLUE FORCE	£26.99
BODY BLOWS	£20.99
BRUTAL SPORTS FOOTBALL	£21.99
CAMPAIGN 2	£26.99
CHAMPIONSHIP MANAGER 93	£20.99
CHAMPIONSHIP MANAGER '94 DATA DISK	£8.99
CHAMPIONSHIP MAN PLUS 94 DATA WINDOWS	£21.99
CANNON FODDER GREAT GAME BIG HIT ON AMIGA!*	£24.99
CARRIERS AT WAR 2	£29.99
CIVILISATION	£26.99
CIVILISATION WINDOWS VER	£29.99
COHORT 2*	£24.99
COMBAT CLASSICS COMP	£24.99
COMMANCHE MAX OVER KILL	£29.99
COMMANCHE MISSION DISK	£19.99
CONSPIRACY*	£23.99
CRUSADERS DARK SAVANT	£29.99
CYBERRACE	£29.99
CYBERWORLDS	£24.99
DAEMONSGATE*	£21.99
DARKMERE*	£24.99
DARK LEGIONS*	TBA
DAUGHTER OF SERPENTS 2	£29.99
DAY OF THE TENTACLE	£30.99
DELTA V* IT'S A STATE OF MINDI	£26.99
DETROIT* 12/4*	£26.99
DOOM (NOT SHAREWARE VER, BETTER! LARGER!)*	£TBA
DREAM TEAM COMP	£21.99
DUNE 2	£24.99
DUNGEON HACK	£26.99
ELDER SCROLLS THE ARENA	£30.99
ERIC THE UNREADY	£24.99
EURO SOCCER*	£20.99
EXCELLENT GAMES COMP	£26.99
EVASIVE ACTION	£24.99
F14 FLEET DEFENDER*	£29.99
F117A NIGHTHAWK	£26.99
F15 STRIKE EAGLE 3	£28.99
FALCON 3 & F15-3 IT'S A GIFT	£32.99
FANTASY EMPIRE	£26.99
FATAL STROKES*	£24.99
FATTYBEAR	£24.99
FIELDS OF GLORY	£28.99
FIRE & ICE*	£21.99
FLASHBACK	£24.99
FLIGHT SIM TOOL KIT (DOMARK)	£32.99
FLIGHT SIM 5	£29.99
FLIGHT SIM 5 PLUS MDOS-6.2	£56.99
FLIGHT SIM 5 "SAN FRANCISCO" SCENERY	£28.99
FLIGHT SIM 5 "WASHINGTON" SCENERY	£28.99
FLIGHT SIM 5 "NEW YORK" SCENERY	£18.99
FLIGHT SIM 5 "PARIS" SCENERY	£18.99
FORGE OF VIRTUE HD	£15.99
FRONTIER ELITE 2	£26.99
FURY OF THE FURRIES*	TBA
GABRIEL KNIGHT (SINS OF THE FATHERS)	£29.99
GARDENERS WORLD 3D DESIGNER	£14.99
GENESIA	£24.99
GLOBAL DOMINATION	£29.99
GNOME ALONE*	£20.99
GOAL	£21.99
GOBLIINS 3	£26.99
GRAND PRIX FORMULA ONE	£28.99
GRAND PRIX UNLIMITED (ACCOLADE)	£15.99
GREAT NAVAL BATTLES*	£TBA
GUNSHIP 2000	£26.99
GUNSHIP 2000 MISSION DISK	£18.99
HANNA BARBERA ANIMATION	£32.99
HAND OF FATE KYRANDIA 2	£26.99
HARRIER & TASKFORCE 1942 IT'S A GIFT	£32.99
HEIRS TO THE THRONE	£29.99
HIRED GUNS	£26.99
HISTORY LINE 1914-1918	£26.99
IN EXTREMIS	£27.99
INCA 2	£29.99
INCREDIBLE MACHINE EVEN MORE! NOT AN ADD ON	£26.99
INDIANA JONES FATE OF ATLANTIS ADV	£26.45
INDIANA JONES LAST CRUSADE ADV	£14.99
INDY CAR RACING	£34.99
INNDCENT NEW PRICE!	£18.99
JORDAN IN FLIGHT	£26.99
JURASSIC PARK	£24.99
KINGS QUEST 6	£28.99
KING MAKER	£27.99
KINGS TABLE + RAGNAROK	£21.99
LANDS OF LORE	£24.99
LEGACY & PHANTOM IT'S A GIFT!!	£32.99
LEGEND OF KYRANDIA	£24.99
LEGEND OF MYRA	£20.99
LEISURE SUIT LARRY 5	£26.99
LEISURE SUIT LARRY 6	£26.99
LEMMINGS SPECIAL DOUBLE PACK	£26.99
LEMMINGS 2	£26.99
LINK PRO 386 S-VGA	£30.99
LINKS DATA DISKS (CHECK COURSE)	PHONE
LINKWORLDS	£24.99
LITIL DEVIL	£26.99
LOST TREASURES OF INFOCOM ALL TEXT	£24.99
LOTUS ULTIMATE CHALLENGE	£24.99
MANCHESTER UNITED PREM* 2/4*	£21.99
MASTER OF ORION*	£26.99
MICROSOFT ARCADE	£15.99
MICROMACHINES*	£21.99
MONKEY ISLAND 1	£14.99
MONKEY ISLAND 2	£24.99
MONOPOLY	£24.99
MORTAL KOMBAT	£21.99
NFL FOOTBALL GREAT PRICE!	£21.99
NATIONAL LAMPOONS CHESS	£34.99
NOMAD	£21.99
OSCAR*	£21.99
OUTPOST*	TBA
PATRICIAN	£24.99
PERFECT GEN TRILDGY VOLS 1,2 & 3	£29.99
PINBALL DREAMS	£26.99
PINBALL WINDOWS	£24.99
PINBALL FANTASIES	£26.99
POLICE QUEST 3	£26.99
POLICE QUEST 4 OPEN SEASON	£26.99
PREMIER MANAGER	£21.99
PREMIER MANAGER 2	£24.99
PRINCE OF PERSIA 2	£26.99
PRIVATEER	£39.99
PRIVATEER RIGHTEOUS FIRE	£15.99
PRIVATEER SPEECH DISK	£15.50
QUATERPOLE (HORSERACING SIM)	£21.99
QUEST FOR GLORY IV SHADOW OF DARKNESS	£26.99
RAGNAROK	£26.99
RAIL ROAD TYCOON DELUXE	£26.99
RED CRYSTAL	£29.99
RETURN TO ZORK	£30.99
REUNION*	£29.99
RINGWORLD	£26.99
RISE OF THE ROBOTS*	TBA
ROBOCOP 3	£21.99
RULES OF ENGAGEMENT*	£29.99
RYDER CUP	£21.99
SABRE TEAM*	£24.99
SAM & MAX	£29.99
SCRABBLE (NEW VERSION)	£22.99
SEAL TEAM	£29.99
SENSIBLE SOCCER GREAT FOOTY GAME!!	£22.99
SEVEN CITIES OF GOLD	£26.99
SHADDW OF THE COMET	£29.99
SILVER BALL	£21.99
SILVER SEED	£15.99
SIM CITY DELUXE GREAT PRICE!	£20.99
SIM CITY/LEMMINGS	£20.99
SIM CITY 2000 (CD ROM VER NOT OUT UNTIL WINTER 94)	£26.99
SIM LIFE	£26.99
SIM LIFE WINDOWS	£26.99
SIMON THE SORCERER	£26.99
SINK OR SWIM	£21.99
SPACE HULK	£29.99
SPACE QUEST 5	£26.99
STAR TREK 25TH ANNI	£24.99
STAR TREK JUDGEMENT RITES COLLECTORS PACK/VIDEO	£29.99
STARLORD	£29.99
STREETFIGHTER 2	£21.99
STRIKE COMMANDER 386	£32.99
STRIKE COMMANDER (SPEECH PACK)	£15.50
STRIKE COMMANDER TACTICAL OPERATIONS	£15.99
STRIKE FLEET	£11.99
STRIKE SQUAD	£26.99
SUB WARS 2050	£29.99
SYNDICATE soundblaster boards only!!	£29.99
SYNDICATE DATA DISK	£17.99
TFX	£29.99
TERMINATOR RAMPAGE	£26.99

RUBYSOFT (UK) Ltd, (Dept PCH)
96 Lillie Road, London,
SW6 7SR. England
Tel: 071 381 8998 or 071 610 1703
Fax: 071 610 1703

Some shop prices will differ.
Budget and Educational software also available

TETRIS/7 COLOURS	£17.99
THE AMERICAN ALL STARS	£29.99
THE BLUES AND GREYS	£29.99
THEME PARK* ORDER THIS ONE BEFORE THE RUSH!!!	TBA
TORNADO + OPERATION DESERT STORM	£29.99
TORNADO OPERATION DESERT STORM	£18.99
TRODDLERS	£21.99
TROLLS	£18.99
UFO ENEMY UNKNOWN	£29.99
ULTIMA UNDERWORLD 11	£26.99
ULTIMA 8	£32.99
ULTIMA 8 SAP	£18.99
UNNECESSARY ROUGHNESS	£26.99
V FOR VICTORY 3	£29.99
V FOR VICTORY 4	£26.99
WINTER OLYMPICS	£27.99
WIZARD*	£26.99
WIZKID	£21.99
X WING	£30.99
X WING IMPERIAL PURSUIT DATA DISK	£17.99
X WING DATA "B WING"	£17.99
ZOOL	£24.99

PANASONIC 562B MULTIMEDIA PACK DEALS

PACK 1
562B WITH SOUNDBLASTER PRO 8 BIT PLUS A SET OF SPEAKERS.
RRP £386.99. OUR PRICE £279.99

PACK 2
562B WITH SOUNDBLASTER 16 BIT VALUE PLUS A SET OF SPEAKERS.
RRP £363.98. OUR PRICE £296.99

PACK 3
562B WITH SOUNDBLASTER 16 MULTI CD PLUS SET OF SPEAKERS
RRP £446.18. OUR PRICE £334.98

PACK 4
562B + PROSONIC + SPEAKERS
RRP £387.98. OUR PRICE £295.99

SPECIAL STOP PRESS

COMMANCHE MAX OVERKILL
XWING ON 31/2 DISK BOXED
RRP £91.98
OUR SPECIAL PRICE £34.99 FOR BOTH

CD ROM

7TH QUEST	£35.99
AKIRA*	£29.99
ALONE IN THE DARK & JACK	£19.99
ART GALLERY NATIONAL (MICROSOFT)	£42.99
B17/SILENT SERVICE	£32.99
BATTLECHESS	£32.99
BEAUTY AND THE BEAST	£34.99
BEETHOVENS 5TH (MICROSOFT)	£42.99
BEETHOVEN 9TH (MICROSOFT)	£42.99
BLUE FORCE	£29.99
BLOODNET*	£32.99
CAPITOL HILL MPC	£29.99
CARMEN USA DELUXE VER OF ORIG	£41.99
CHESSMASTER MPC PRO	£35.99
CINEMANIA WIN 1992	£38.99
COMANCHE MAX OVERKILL	£35.99
CONSPIRACY	£32.99
CRITICAL PATH WIN	£35.99
DAGGER AMON RA	£32.99
DARK SUN	£33.99
DAY OF THE TENTACLE	£35.99
DISCOVERIES OF THE OEEP	£29.99
DINOSAURS (MICROSOFT)	£42.99
DUNE	£35.99
ENCARTA (1994)	£75.99
ERIC THE UNREADY	£26.99
F117A/F15 2	£32.99
F15 3	£32.99
FLIGHT SIM TOOL KIT (DOMARK)	£35.99
GABRIEL KNIGHT	£32.99
GATEWAY 2 HOMEWORLD	£29.99
GOBLINS 3	£35.99
INCA 2	£38.99
IRON HELIX WIN	£29.99
HUMANS 1&2	£29.99
JFK	£35.99
JOURNEYMAN	£29.99
JURASSIC PARK	£29.99
KINGS QUEST 5	£32.99
LANDS OF LORE	£32.99
LOST IN TIME	£32.99
LOVERS GUIDE	£29.99
MAD DOG MCCREE	£34.99
MEGARACE	£29.99
MICRDCOSM	£37.99
MUSICAL INST (MICROSOFT)	£42.99
NOMAD	£24.99
OCEANS BELOW	£29.99
PHOTOSTAR	£29.99
RINGWORLD	£29.99
REBEL ASSAULT	£33.99
RETURN TO ZORK	£35.99
SAM & MAX*	£35.99
SECRET OF MONKEY ISLAND	£33.99
SHERLOCK HOLMES 1	£30.99
SHERLOCK HOLMES 3	£35.99
SIM CITY 2000* WE'VE BEEN WAITING FOR THIS ONE	TBA
STAR TREK 25TH ANNIVERSARY IMPORT FEW ONLY	£69.99
STRAVINSKY'S RITE OF SPRING (MICROSOFT)	£42.99
STRIKE COMMANOER	£35.99
SUB LOGIC ATP COMPLETE	£57.99
SUPER VGA HARRIER	£35.99
TFX	£35.99
THE ANIMALS (SAN DIEGO ZOO)	£35.99
TONY LA RUSSA 2*	£33.99
TORNADO WITH DESERT	£33.99
ULTIMA UNDERWORLD 1&2	£35.99
ULTIMA 8	£43.99
WALKTHROUGHS AND FLYBYS OVER 500Mb ANIMATION & PRESENTATIONS IMPORT FEW ONLY	£32.99
WHALES AND DOLPHINS	£35.99
WILD PLACES*	£29.99
WING COMMANOER DELUXE	£35.99
WINTER OLYMPICS	£31.99
WOLFPACK	£24.99
WORLD ATLAS 4 WIN	£35.99
WORLD ATLAS 4 MPC	£40.99

REMEMBER UNLIKE OTHERS ALL OUR PRICES INCLUDE VAT.

JOYSTICKS/PERIPHERALS

G FORCE YOKE NICE ONE! RRP £64.99	£49.99
GRAVIS ANA BLACK	£32.99
GRAVIS IBM PAD PC200	£21.99
MACH 1 PLUS C&H	£21.95
MACH 2 C&H	£24.99
MACH 3 C&H	£31.99
MERLIN ANA	£14.99
SUPER WARRIOR 5 QS201	£15.99
QUICKSHOT KT QS187E + CARO	£30.99
FX2000 ANA SUNCOM	£26.99
SPEEDKING ANA	£16.99
SPEEDKING OIGI	£12.99
PC PACK + JOYSTICK CARO	£22.50
OEXTRA POINT MOUSE 3 BUTTON WINS	£13.99
MOUSE QS 159	£31.99
PROSONIC 16 BIT SOUNO BOARO, CO INTERFACE	£117.99
SOUNOBLASTER 2 VALUE EOITION	£60.44
SOUNDBLASTER PRO 8 BIT STEREO VALUE EDITION	£79.99
SOUNOBLASTER 16 BIT VALUE EDITION	£96.99
SOUNOBLASTER 16 MULTI CO	£134.99
SOUNDBLASTER 16 MULTI MEDIA CD + ASP	£167.99
PROSONIC 16 BIT	£95.99
HEAD CLEANER 3 1/2	£3.99
ZYDEK STEREO SPEAKERS 8 WATT RMS	£32.99
TECHNOPLUS SPEAKERS (POWER SOUNO 1 OR 2)	£14.99
PC J/STICK SPLITTER ONLY USE ON LATEST S/B PRO	£12.99
MIDI LEAD 2 METRE	£3.99

PLEASE NOTE ALL JOYSTICKS £1.50 SOUNDCARDS AND SPEAKERS £3.00 P&H

SERIOUS

AUTOROUTE EXP OOS	£74.99
AUTOROUTE EXP WIN	£102.99
AUTOROUTE EXP AMERICA	£74.99
AUTOROUTE EXP EUROPEAN	£74.99
AUTOSKETCH OOS	£99.99
AUTOSKETCH WIN	£149.99
BORLAND PARADOX WIN	£129.99
CALENDAR CREATOR WIN	£31.99
LOTUS 123 WIN	£299.99
LOTUS 123 V3.4	£427.99
MICROSOFT PUBLISHER V2 GREAT PROOUCT	£99.99
MICROSOFT OOS 6.2	£57.99
MICROSOFT OOS 6.2 PLUS FLIGHT SIM 5	£56.99
MICROSOFT WINOOWS V3.1 UPGRADE	£49.99
MICROSOFT WORKS WIN V3	£129.99
QUATTRO PRO WIN/OOS RRP £352.44 LATEST VER	£48.69
SAGE STERLING +2 BOOK KEEPER	£123.99
SAGE STERLING +2 ACCOUNTANT	£365.99
WOROPERFECT 6 WIN	£287.99
WOROPERFECT 6 OOS	£287.99
WOROSTAR 7	£302.99
SAGE STERLING +2 ACCOUNTANT PLUS	£377.99
SAGE STERLING +2 FINANCIAL CONTROLLER	£470.99

ALL PRICES INC OF VAT.

* PLEASE NOTE SOME TITLES MAY NOT BE RELEASED AT PRESS DATE BUT WILL BE DESPATCHED WITHIN 24 HRS OF RELEASE SUBJECT TO AVAILABILITY. PLEASE PHONE TO CHECK.
PLEASE TELEPHDNE FOR ANY TITLES NOT SHOWN AS WE CANNOT SHOW ALL TITLES AVAILABLE ,
ALL TITLES CAN BE PUT ON BACK ORDER. REMEMBER WE HAVE NEVER DEBITED A CREDIT CARD YET FOR GOODS NOT SENT!!
ALL PRICES INC OF VAT.

CREDIT CARDS DEBITED ONLY ON DAY OF DESPATCH.

Tel: 071 381 8998/071 610 1703 Fax: 071 610 1703

Please charge my Access/Visa No:.....

Valid from: .....Expiry date.....

EUROCARD MasterCard Access VISA

ORDER FORM

Please supply me with the following for Computer.....

Titles	Price
P&P	
TOTAL	

Date .....
Name .....
Address .....
.....
.....
.....Postcode.....
Tel .....

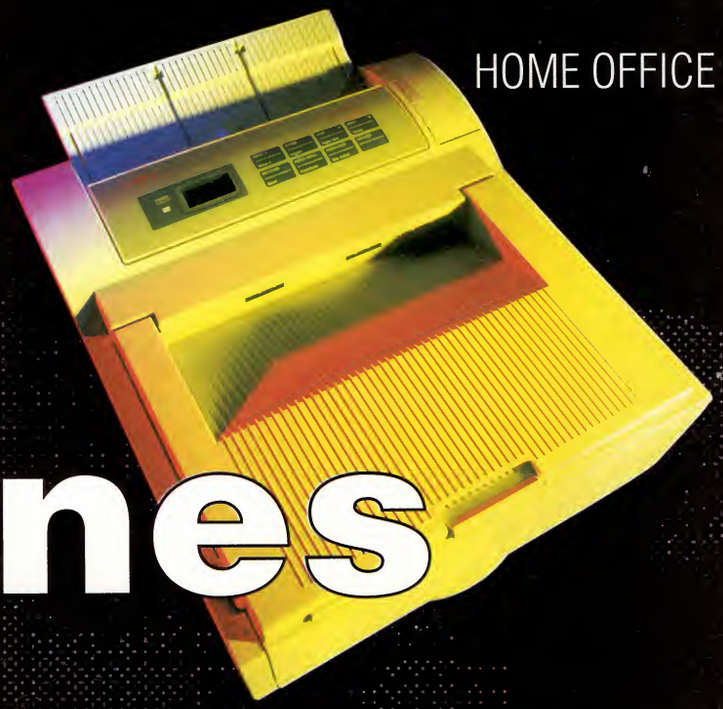
Business hours
10am - 5pm
Monday to Saturday
After hours + Sundays
Ansaphone order hotline:
071 381 8998

NEXT DAY GUARANTEED DELIVERY AVAILABLE ONLY £5.00 + 1ST CLASS POSTAGE AT COST.

Please make cheques & PO payable to **RUBYSOFT (UK) LTD.**
Credit card orders cashed only on despatch.
(Please note we do not make any charge for credit card orders). Please add £1.00 p&p per item, All joysticks £1.50 P&P each, £3.75 per item for all Europe, and all other countries £4.75 per item BFPO please add £1.50 per item.. All prices subject to change or manufacturers price reviews without notice. E&OE. Please note mail order companies may take up to 28 days to deliver goods from receipt of orders, However most orders despatched within 2 days.
Please allow for cheque clearance.
(Dept PCH JUNE 94)

EXPORT ORDERS WELCOME

Mean machines



Choosing the correct printer can be a tricky business. Wayne Williams takes a look at a selection and casts his vote

PICK a printer, any printer. Not as easy a task as you'd imagine. There's a bewildering range of types and models available and although you might fancy the look of one you saw in a shop window, it could well be the wrong model for your needs. So before you rush into buying a printer, spare a thought as to what you are going to use it for and exactly what sort of output you really need.

There are three main types to think about – dot matrix, inkjet and laser. The first are considered a bit old fashioned nowadays although there are still plenty of companies churning them out.

However, even the very latest models can be slow, sometimes extremely noisy and offer relatively poor print quality when compared to the other types. You wouldn't want to prepare a CV on a dot-matrix, for example.

Inkjets, on the other hand, are another story altogether. Despite the falling price of laser technology they still manage to retain their popularity, due mainly to a combination of cost and quality.

Most inkjets print at similar resolutions to lasers – normally 300 or 360dpi (dots per inch) – but are a fraction slower because, as the name suggests, they produce text and graphics by spraying ink at the paper. The print quality isn't as crisp either.

In the majority of cases the inkjet manufacturers combine the print head with the ink reservoir. This means that you have to throw away the head every time you need to change the cartridge.

The primary reasoning behind this is to ensure a high quality printout at all times and make changing the cartridge easier, but it can be rather an expensive exercise nonetheless.

To keep down this cost kits are available which inject ink directly into the existing cartridge.

This method isn't 100 per cent foolproof, however, and there is a limited number of times you can continue to refill your printer using this technique before the print heads begin to wear out or clog up.

Unlike inkjets, laser printers produce their output by actually *fusing* the image to the page in a fast but rather complicated process.

It's because of this complexity that they are still relatively expensive – on average, twice the price of an inkjet.

If you need the superior print quality a laser offers, it might well be worth spending the extra. However, if you only plan to use your printer for producing letters or semi decent graphics, you'd probably be fine with an inkjet.

That's a wide generalisation though as the speed, quality and price of one laser printer might compare badly with another. The same is possibly even truer when comparing inkjets.

So which is the best buy and why? Here we take a look at four low cost laser printers and four inkjets, comparing them for quality and giving them the all important value for money rating.

Epson Stylus 800

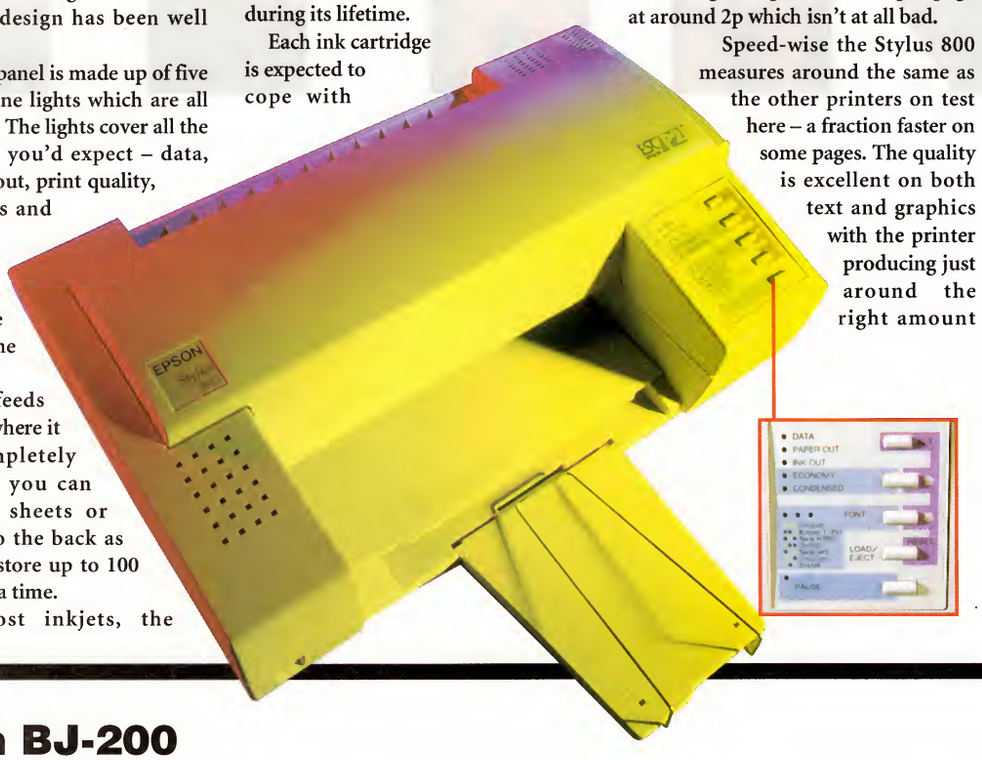
AT FIRST glance the Epson Stylus 800 inkjet doesn't really look particularly fetching. It has a decidedly workmanlike appearance and a rather naff clip-on paper support, but it does however, score points on all other counts. It's quite bulky but has certainly been built to last and although it looks a little plain, the design has been well thought out.

The control panel is made up of five buttons and nine lights which are all clearly labelled. The lights cover all the usual features you'd expect – data, paper and ink out, print quality, choice of fonts and so on while on the buttons *pause* replaces the more common on-line option.

The paper feeds into the front where it remains completely exposed, and you can insert single sheets or envelopes into the back as well. You can store up to 100 sheets of A4 at a time.

Unlike most inkjets, the 360x360dpi print head is permanent, which means that when you run out of ink you only have to change the cartridge instead of the whole thing. The head has been designed to last the lifetime of the machine and should be able to produce around 1,000 million dots through each of the 48 nozzles during its lifetime.

Each ink cartridge is expected to cope with around 700,000 characters and because you don't have to cough up for the print head it will only set you back £12 to buy a new one. Having said that, as with most consumables, you can probably pick one up even cheaper if you shop around. By my reckoning that puts the cost per page at around 2p which isn't at all bad.



Speed-wise the Stylus 800 measures around the same as the other printers on test here – a fraction faster on some pages. The quality is excellent on both text and graphics with the printer producing just around the right amount of ink to ensure that the image is clear and not at all smudged.

If you are after good, crisp print, this model is probably your best bet, provided you're prepared to spend a little extra cash at the outset.

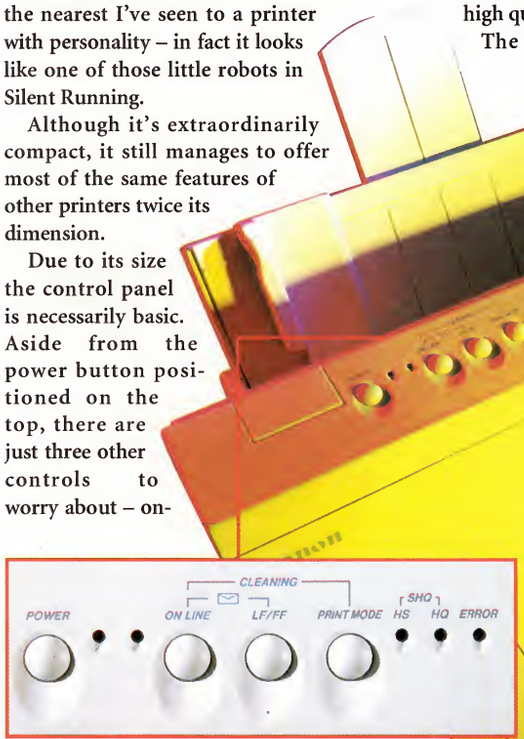
Product	Epson Stylus 800
Price	£371
Supplier	Epson
Tel	0442 61144
✔	Excellent quality print, cheap price per page
✘	Slightly more expensive than the others
PCH Verdict	★★★★★☆

Canon BJ-200

YOU can't help liking the Canon BJ-200. At half the size and weight of the other inkjets tested here, it's certainly the nearest I've seen to a printer with personality – in fact it looks like one of those little robots in Silent Running.

Although it's extraordinarily compact, it still manages to offer most of the same features of other printers twice its dimension.

Due to its size the control panel is necessarily basic. Aside from the power button positioned on the top, there are just three other controls to worry about – on-line, LF/FF and print mode. The latter toggles between three options of high quality, high speed and super high quality.



The BJ-200's sheet feeder can store up to 100 sheets of standard photocopy paper at a time in A4, B5, letter or legal sizes. Alternatively it can also handle up to 10 envelopes if you prefer.

The paper is fed into the top and comes out at the front, so you don't need to expand the paper exit until you're ready to output, again keeping with Canon's aim of making the printer as unobtrusive as possible.

The head itself is made up of 64 nozzles, offering at best a 360 x 360dpi resolution. Despite this, the overall quality wasn't particularly brilliant and on our test graphic was fairly banded.

The head and cartridge of the BJ-200 are integral and offer a fairly standard 700,000 character life, or around 700 pages at 1,000 characters a page. A replacement head and cartridge will set you back around £24 which works out at around three and half pence a copy – fairly expensive.

The BJ-200 might not offer the best quality compared with the likes of the Epson Stylus 800 but it is nice and simple, well designed and certainly well worth considering, particularly if, like me, you are pushed for desk space.

Product	Canon BJ-200
Price	£304
Supplier	Canon
Tel	081-773 3173
✔	Fast, extremely compact and simple to use
✘	Poorer print quality, graphics look banded
PCH Verdict	★★★★☆☆

Citizen Projet II

THE Citizen Projet II looks like a no-nonsense printer. It's robust and simple, almost to the point of looking plain, with just three very basic buttons to worry about – on-line, line feed and form feed.

Citizen don't believe in making things any more complicated than they have to be and the Projet II is a prime example of this philosophy – it probably couldn't be made any simpler if they tried.

The printer itself is a pretty good size with the paper feeding out of the way into the back of the machine. The tray will accept up to 70 sheets of standard photocopy paper, and there is also a manual feed tray at the front so you can feed in single sheets without any fuss.

The print head is made up of 50 nozzles – two rows of 25 – with a matrix of 300 x 300dpi, although the quality's not really all that hot. The first few prints were very black, smudged and, in most cases, a bit banded. Even after the print head had sorted itself out the quality still wasn't particularly sharp which was a bit of a disappointment. Speed-wise it's not bad though, offering 180cps in draft and 120cps in LQ delivering up to two pages per minute (ppm) in letter quality mode and three in draft.

The life of the Projet II's ink cartridge is put at 400,000 characters or 400 pages at the 1,000 characters per page standard. However, what's nice is that the cartridge can be replaced up to 12 times before you need to think about changing the print head.

The cartridges themselves will cost you £7 for two or £22 for one and a print head, which is certainly a bit of a bargain. At its best you can expect each copy you print to set you back just under a penny which is excellent. The Citizen Projet II is without doubt a home printer. It's very workman like and if you just want a simple no nonsense model that's fairly cheap to run, it might just suit your needs. However, if you need good quality images and text, you'd be advised to look elsewhere.

Product	Citizen Projet II
Price	£304
Supplier	Citizen
Tel	0753 584111
✔	Very simple, cheap to run and inexpensive to refill
✘	Not fantastic print quality: Dark and liable to smudge
PCH Verdict	★★★★☆☆

Hewlett-Packard DeskJet 520

THIS printer is well named as you'd probably need a separate desk to keep it on. Actually that's not true but it's certainly a pretty chunky affair, for a inkjet at least.

It's not much of a looker either but it does have one ergonomic saving grace – the power cable and printer lead attach to the underside.

Although annoying to start with when you're messing around trying to connect it, this does prove to be a very well thought out idea in practice as it keeps the wires tucked neatly out of the way.

The 520's control panel is a pretty comprehensive affair, made up of eight buttons and seven lights, which looks a little confusing but is actually quite simple as each button has its own basic function.

Paper is loaded quickly and easily into the huge tray that sits on the front and you can select between letter, A4 and executive sizes with the added option of being able to load in up to 20 envelopes in a special tray underneath. This was the only inkjet on test in which the paper remained totally covered at all times, free from dust and dirt which can accumulate.

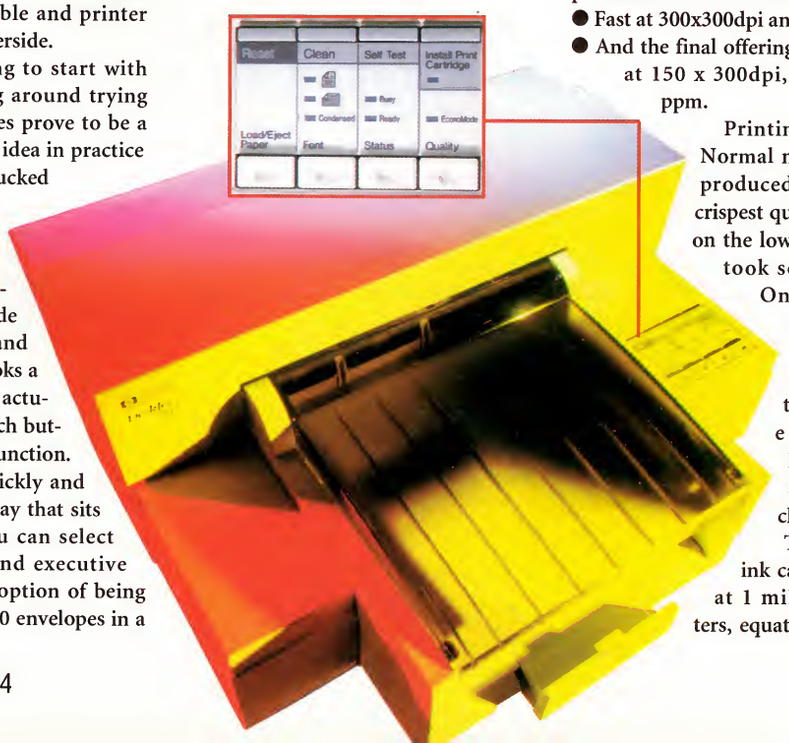
Print wise, the HP DeskJet 520 offers two different choices of quality in Dos and four in Windows. With the latter there's:

- Presentation at an impressive 600x300dpi which delivers one ppm
- Normal, at 600x300 dpi which promises around two and a half ppm
- Fast at 300x300dpi and three ppm
- And the final offering, Economode, at 150 x 300dpi, also at three ppm.

Printing out text in Normal mode, the 520 produced possibly the crispest quality and even on the lower resolutions took some beating. On graphics, however, it was pipped at the post by the more expensive Epson Stylus 800, but it was close run thing.

The life of the ink cartridge is put at 1 million characters, equating to around 1,000 pages. Since the cartridge with print head will set you back £31 that's a cost of around 3p a page, perhaps a tad expensive.

Still if you need good quality, the 520 is one of the best and at £304 won't break the bank either.



Product	Hewlett-Packard DeskJet 520
Price	£304
Supplier	Hewlett-Packard
Tel	0344 360000
✔	Good quality print and affordable
✘	A big and rather bulky affair, a little expensive to run
PCH Verdict	★★★★★☆

Mannesmann Tally T9005

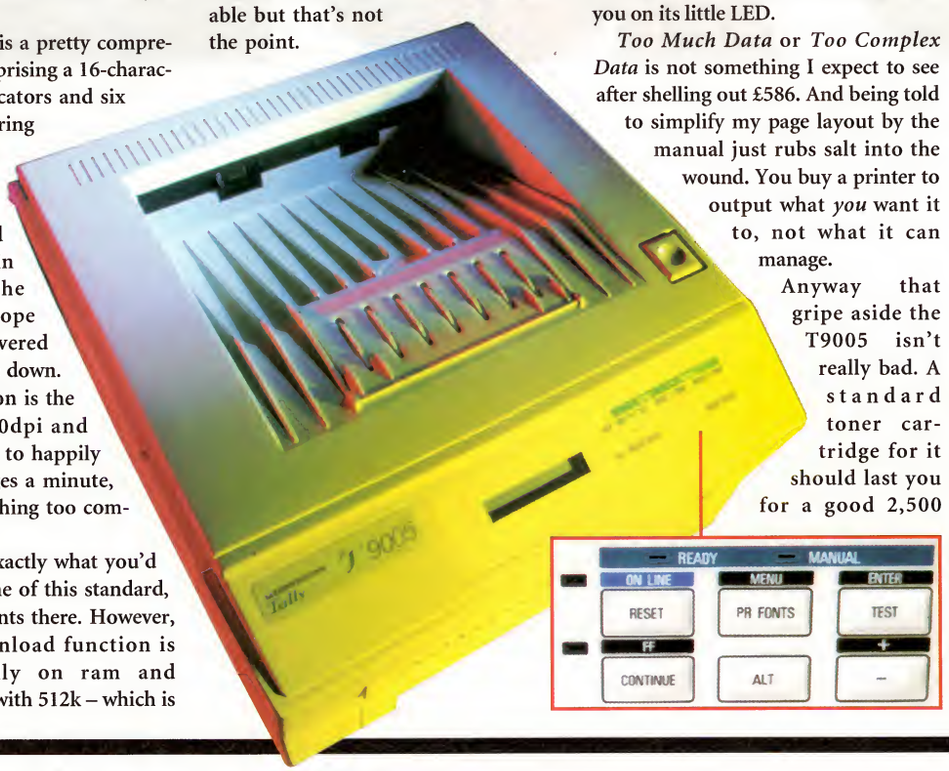
THE one thing you can't help noticing about this machine is its size. Weighing in at 13 kilos, or 18 kilos if you add the second optional paper cassette to it, the T9005 is certainly a chunky machine.

The front panel is a pretty comprehensive affair, comprising a 16-character LCD, four indicators and six function keys covering all the usual things.

The T9005 takes up to 250 pages of standard photocopy paper in its cassette and the output tray can cope with 50 pages delivered face up or 150 face down. The print resolution is the standard 300x300dpi and you should expect to happily churn out five pages a minute, as long as it's anything too complicated.

The quality is exactly what you'd expect of a machine of this standard, so I've no complaints there. However, the T9005's download function is dependent totally on ram and although it comes with 512k – which is fairly typical for a budget laser – sadly it wasn't even able to print out the whole of our test graphic before it ran out of memory.

Of course, the memory is upgradeable but that's not the point.



A machine of this size and price should be able to handle simple graphics. Perhaps I should have expected the worst when I saw just how many error messages it is capable of flashing up at you on its little LED.

Too Much Data or *Too Complex Data* is not something I expect to see after shelling out £586. And being told to simplify my page layout by the manual just rubs salt into the wound. You buy a printer to output what *you* want it to, not what it can manage.

Anyway that gripe aside the T9005 isn't really bad. A standard toner cartridge for it should last you for a good 2,500 pages and since a replacement will only set you back £29, bringing the price per page down to around a penny, it's pretty inexpensive to run.

Incidentally, upgrading the memory to the essential 1Mb will set you back another £81 which is certainly going to be worth bearing in mind if you want to print out anything other than text.

Product	Mannesmann Tally T9005
Price	£586
Supplier	Mannesmann Tally
Tel	0734 788711
✔	Cheap printing costs
✘	Needs more memory, looks bulky
PCH Verdict	★★★☆☆☆

Brother HL-6

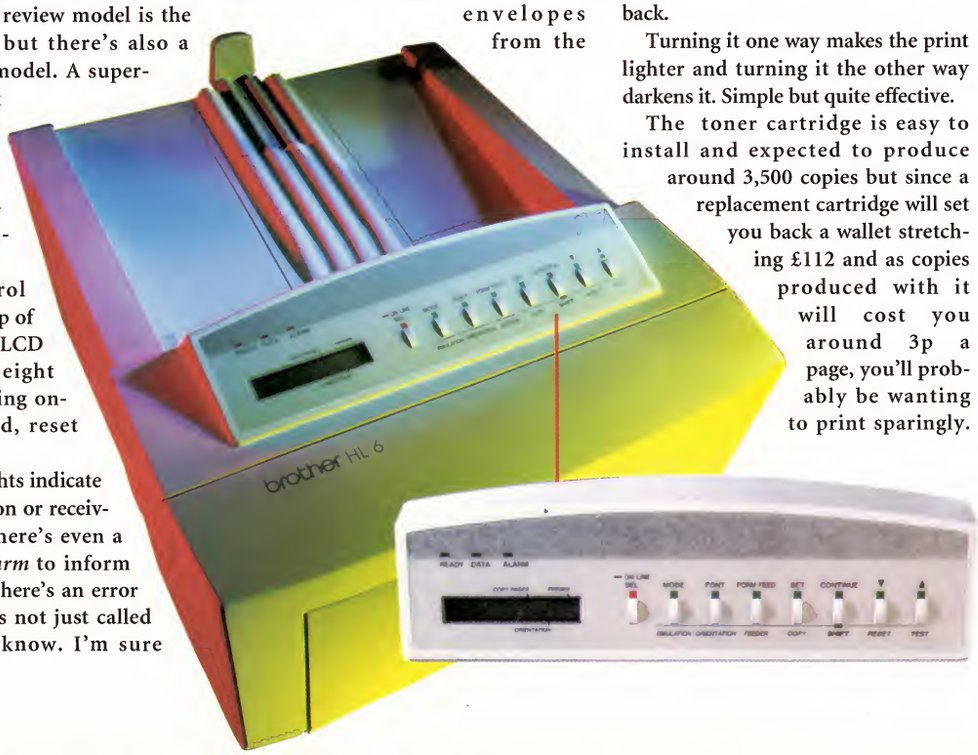
LIKE the Mannesmann Tally T9005, Brother's HL-6 laser is a chunky affair but due, in the main, to its flat design it looks considerably smaller.

Like all the lasers reviewed here it has resolution of 300x300dpi but goes one better on speed, due to its extra memory – this review model is the 1Mb version, but there's also a cheaper 512k model. A supercharged six ppm is promised, provided you're not outputting anything too complex.

The control panel is made up of a 16-character LCD display with eight switches covering online, form feed, reset and so on.

The usual lights indicate if the printer's on or receiving data and there's even a light called *alarm* to inform you whenever there's an error – quite why it's not just called *error* I don't know. I'm sure Brother have their reasons though.

The Brother HL-6 comes with a fold down, multi-purpose paper tray which can hold up to 150 sheets of standard quality photocopier paper at a time and also has a built in envelope adapter that will let you print envelopes from the same tray without any fuss. The quality produced by the HL-6 was pretty good, although rather dark on initial copies. This is a problem that's really easy to overcome with this particular model however as the density is simply adjusted by means of a knob at the back.



Turning it one way makes the print lighter and turning it the other way darkens it. Simple but quite effective.

The toner cartridge is easy to install and expected to produce around 3,500 copies but since a replacement cartridge will set you back a wallet stretching £112 and as copies produced with it will cost you around 3p a page, you'll probably be wanting to print sparingly.

The HL-6 has a lot of nice features which make it a good printer and well worth taking a look at but at £704 it's quite an expensive buy and one which rather sadly offers nothing particularly exciting to really justify the considerable extra cost.

Product	Brother HL-6 (1Mb)
Price	£704
Supplier	Brother
Tel	061-330 6531
✔	Easy to use, simple but comprehensive control panel
✘	Expensive to buy and run
PCH Verdict	★★★★☆☆

OKI OL400ex

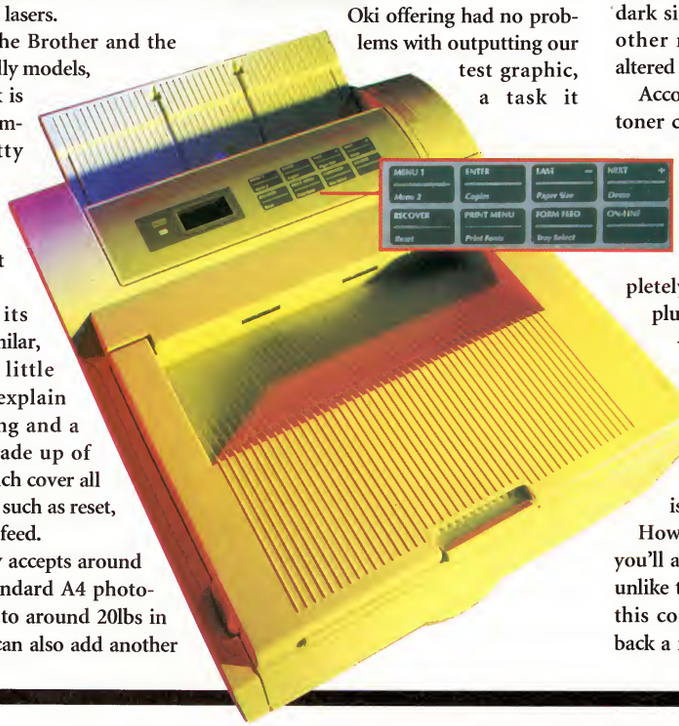
THIS isn't, technically, a laser – it's an LED page printer. There's very little difference between the two in terms of general operation and final output though, the main distinction being that with an LED printer the image is created using Light Emitting Diodes instead of the more usual lasers.

Unlike both the Brother and the Mannesmann Tally models, the Oki OL400ex is a surprisingly compact and pretty light weight piece of kit, weighing in at around eight kilos.

Aside from its size it is fairly similar, though, with a little LCD screen to explain what's happening and a control panel made up of eight buttons which cover all the usual options such as reset, on-line and form feed.

The paper tray accepts around 100 sheets of standard A4 photocopier paper, up to around 20lbs in weight, but you can also add another tray and there is the usual built-in sheet feeder for single pages and envelopes.

Like the T9005 the OL400ex comes with 512k resident memory which is upgradable to 4Mb if you need to produce lots of high definition pages. However, unlike the former the little Oki offering had no problems with outputting our test graphic, a task it performed at a speed that would put other models to shame.



The OL400ex promises four ppm and has the standard 300dpi x 300dpi resolution, which on test produced a good solid print out, although in comparison it was perhaps a little on the dark side. However, as with all of the other machines on test this can be altered without too much fuss.

According to the manufacturers, the toner cartridge is expected to last for around 2,000 pages, although you are warned in the manual to expect to have to change the first cartridge slightly earlier. It's easy to install and completely mess free which is a definite plus point with this type of printer – the last thing you want is toner all over the carpet. A replacement cartridge will only set you back £21 meaning that the cost per page is somewhere around a penny, which is excellent.

However, every 20,000 copies or so you'll also need to change the drum as unlike the other printers reviewed here this comes separate and will set you back a massive £170. Worth bearing in mind. If you are looking for a good quality, fairly low cost printer, you could certainly do a lot worse than the OKI OL400ex. It's far more than simply a case of the predictable Oki-dokey cliché really.

Product	OKI OL400ex
Price	£586
Supplier	OKI
Tel	0800 525585
✔	Nice and compact, fast and produces some good quality print
✘	Slightly confusing control panel that may take a while to get to grips with
PCH Verdict	★★★★★☆

HP LaserJet 4L

HEWLETT-Packard seem to be obsessed with hiding their parallel and power sockets. After a bit of hunting around I finally discovered that on the LaserJet they are concealed behind two flaps at the back, one on either side.

To plug in the printer you have to open the panels, insert each cable into the relevant socket and then close them up again. It takes a few moments to set up but keeps the cables from getting tangled and looks nice and tidy to boot.

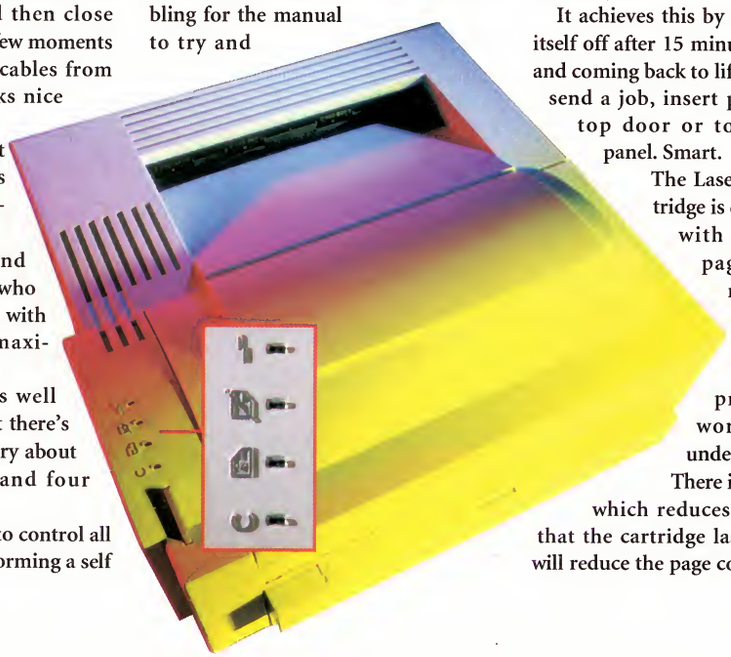
Unlike their inkjet offerings, HP's LaserJet is fairly attractive and reasonably compact with it.

It's straightforward and ideal for the home user who wants to be able to print with minimum of fuss and maximum quality.

This is a point that's well illustrated by the fact that there's no real front panel to worry about – it's just one button and four lights.

The button allows you to control all the functions such as performing a self test or clearing the printer memory.

The four lights are also pretty simple: *Ready* tells you what the status of the printer is, *data* tells you if it's receiving information from the PC, *paper* informs you if you've got any in the tray or not, and whether you've got a jam. *Error*, is self explanatory and will, no doubt, send you scrabbling for the manual to try and find out what the problem could possibly be.



As well as simplifying the panel the LaserJet utilises what is described as Intelligent on/off sensing designed totally to replace the power switch and reduce the electricity consumption to around an eighth of what it would normally be.

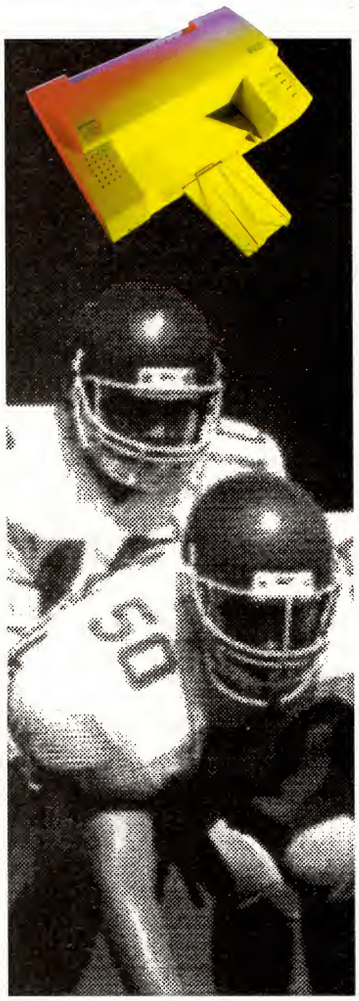
It achieves this by actually turning itself off after 15 minutes of inactivity and coming back to life only when you send a job, insert paper, open the top door or touch the front panel. Smart.

The LaserJet's toner cartridge is expected to cope with around 3,000 pages and since a replacement cartridge will set you back £85 that means the price per page works out at just under 3p a copy.

There is an Economode which reduces the quality, so that the cartridge lasts longer. This will reduce the page cost considerably, but doesn't effect the speed,

A good printer unquestionably which with all its extra and easy to use features would make an ideal purchase for the home user if it wasn't for the sky-high price tag.

Product	HP LaserJet 4L
Price	£751
Supplier	Hewlett-Packard
Tel	0344 360000
✔	Quite good print quality, simple to use, energy friendly
✘	Expensive to buy and run
PCH Verdict	★★★★☆☆



Epson Stylus 800

Canon BJ-200

Citzen Projet II

HP DeskJet 520

Prints and the resolution

ALONG with price, quality is without doubt one of the major factors that has to be addressed if you are considering purchasing a printer. The eight products we tested here all offered different results although the lasers obviously produced sharper and better quality than their inkjet cousins.

Incidentally, the following timings for the test graphics were taken from the moment that the print command was entered so include the PC's processing period as well.

Of the inkjets the Citizen Projet II's quality was probably the poorest. The text was banded, the test graphic came out dark and without great definition, and it took 1 minute 23 seconds to deliver the finished page.

The little Canon BJ-200's overall quality was better but only marginally. The text was around the same quality as that produced by the Citizen, although the test graphic, produced in 58 seconds dead was slightly better in terms of clarity. Having said that it was still far from perfect and showed heavy dithering.

"The eight products we tested here all offered different results"

The HP DeskJet 520 produced probably the crispest text of any of the inkjets and the test graphic was also quite clear, although perhaps a little dark. A point worth mentioning here is that all output produced using the 520 had a strange almost purple colouring to it which I would presume is due to the ink supplied. Here, the test graphic was delivered in 1 minute 17 seconds.

The Epson Stylus 800 produced some good quality text, similar to the output from the DeskJet 520.

Its test graphic quality was superior, however, almost on a par with that produced by the lasers, but without the crispness.

At 1 minute 15 seconds it was also the second fastest inkjet on test.

Laser squad

OF THE lasers there was little difference in quality of the text which was excellent in all cases.

Despite not being able to cope with the full image of the test graphic the Mannesmann Tally T9005 made a valiant attempt and the output it produced was good, although not complete.

At 1 minute 35 seconds it was also a fraction slow, but this figure will no doubt improve considerably with some additional memory.

The expensive HP LaserJet 4L was also slow, taking 1 minute 40 seconds to produce the graphic which, although good, looked slightly blurred.

The OKI offering produced a good clear output in 1 minute dead which was spoilt only by being a fraction too dark. However, a little messing around should produce better results.

Of all the lasers, Brother's HL-6 produced the cleanest printout.

Although the image was broken by a thin line which ran through the middle of it, for sharpness and contrast it was the clear winner.

For price and performance, the two main factors to consider, the Epson Stylus 800 probably takes the honours in the inkjet stakes.

It's £67 more expensive than its nearest rival, but the output quality more than makes up for it.

Although not strictly a laser the OKI OL400ex performed best overall in that section.

At £586 and around a penny a page it's quite cheap and offers

Mannesmann Tally T9005

Brother HL-6

OKI OL400ex

HP LaserJet 4L

Printer secifications at a glance

Printer	List price	Street price	Resolution	Cartridge life	Cartridge price	Cost per page	Size mm (W x D x H)
Citizen Projet II	£304	£234	300x300dpi	400,000 characters	£22*	1p	361 x 361 x 281mm
HP DeskJet 520	£304	£222	600x300dpi	1,000,000 characters	£30.55	3p	443 x 389 x 206mm
Epson Stylus 800	£371	£245	360x360dpi	700,000 characters	£12	2p	435 x 400 x 154mm
Canon BJ-200	£304	£222	360x360dpi	700,000 characters	£23	3.5p	347 x 193 x 173mm
MT T9005	£586	£468	300x300dpi	2,500 pages	£29	1p	351 x 375 x 271mm
Brother HL-6	£704	£528	300x300dpi	2,000 pages	£111.63	3p	350 x 418 x 231mm
OKI OL400ex	£586	£468	300x300dpi	2,000 pages	£21.14	1p	160 x 320 x 260mm
HP LaserJet 4L	£750.83	£539	300x300dpi	3,000 pages	£84.60	3p	362 x 358 x 164mm

** Single cartridge – includes a print head. Two cartridges without print head available for £7*

quality to match that produced by more expensive models. At the end of the day, though, the decision as to which printer will suit you best depends on your requirements.

However, looking at the results from the tests we ran on these eight models it seems that the old adage of *you get what you pay for* doesn't always ring true – at least not with printers anyway.

The price is right?

THE differential between the recommended retail price quoted by the manufacturers and the street price – the figure you are likely to pay – varies considerably with printers.

The prices quoted in the product boxes of the reviews are the figures given to us by the companies. As always in *PC HOME*, these include VAT. As a rough guide we've also included a typical street price in the table above. Our advice is to shop around – it's not uncommon to find a difference of more than £100 on the same printer from different sources.

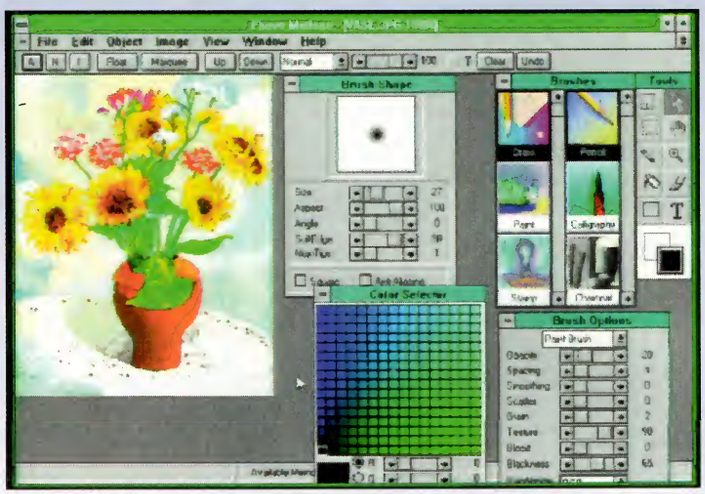
NEXT MONTH: Colour models

FAUVE® MATISSE

The Complete Art Studio In A Box

Fauve Matisse, recently voted product of the year by experts at Imaging Magazine, commenting that " no other paint program comes close to replicating natural brush strokes and realistic media with such ease".

Fauve Matisse, is unlike any graphic software you have ever used. It is built around a set of powerful software brushes that emulate traditional media-pencils, pastels, pens, charcoals, watercolours, oils and more. A wide variety of textures allows you to draw or paint on canvas, paper, or even a brick wall. Amazing stamp tools clone parts of an image into another using duplication, airbrushing or painterly effects. Combine a stamp tool with Autopaint, and you can automatically create a painted image from any photograph.



In addition to the unsurpassed painting tools, you will find image editing features that will stretch your creative ideas. Keep multiple floating selections active at once and work with each "image object" separately or in groups.

Reposition or change the compositing rule of any object at any time to create stunning photo montages.

Fauve Matisse supports Photoshop and PhotoStyler compatible plug-in filters, Kodak PhotoCD, compatible with all major scanners via TWAIN drivers and pressure sensitive tablets. You can organise your images into thumnail folders, move them to other applications and save to any of these file formats: TIFF, TGA, BMP, EPS, GIF, JPEG, DCX, WPG, WMF, PCX and PICT.

ORDER FORM

Please send me a copy of FAUVE MATISSE.
Total price includes VAT (UK only) plus p&p of £2.95 (UK) and £4.95 (Overseas)

	UK	*Overseas*
FAUVE MATISSE	☐ £101.95	☐ £86.65

For payment by cheque
☐ Cheque enclosed made payable to CGS ComputerBild

For payment by credit card
☐ Please debit my credit card

☐☐☐☐ ☐☐☐☐ ☐☐☐☐ ☐☐☐☐

Signature _____ Expiry date ☐☐/☐☐

Please mail to:

Name .....

Address.....

.....

Postcode .....Tel .....

Send the completed coupon to: CGS ComputerBild,
231 Northborough Road, Norbury, London SW16 4TU.

You can also order by phone on 081-679 7307 or by fax on 081-764 7898.

☐ *If you do not want to be informed of the latest technological releases – please tick this box*

Warning:

Using this software can turn your fingers green

Many of us have visions of creating our own dream garden.

Yet because there's so much involved, the nearest we ever come is edging the lawn in a squiggly line and throwing in a few hardy perennials.

Now, thanks to BBC Gardeners' World 3D Designer from Europress Software, we can all become budding Capability Browns.

This revolutionary new program simply pops up on your PC screen, recreating your garden in glorious 3D colour.

Then just let your imagination run wild as you try out an infinite number of designs – from adding a splash of spring daffs here to introducing a rose arbour there.

It includes a veritable encyclopedia of plants with English and Latin names and full blown descriptions and tips on the conditions they thrive in.

It'll even stop you planting in the wrong spots, so you'll never end up with wilting sweet williams or drooping dahlias.

So clip the coupon to find out more about 3D Designer from Europress Software. It'll bring a whole new dimension to your garden.

- See your new garden in glowing colour – long before you sow any seeds or plant any shrubs
- View it through the seasons and watch your trees and shrubs mature over the years.
- Gives you a Things To Do list with seasonal tips to keep your garden immaculate.
- Warning bleep prevents you planting in the wrong spot.
- Print out your garden plan for easy reference.
- Recommended Retail Price ***Only £19.99***

europress SOFTWARE

CREATIVE LIFESTYLE

BBC Gardeners' World 3D DESIGNER

For more details ring 0625 859333, or return this coupon.

Yes - I want to design my dream garden.
Please send me more details about 3D Designer Today.

NAME: _____

ADDRESS: _____

_____

_____

_____

POSTCODE: _____ TEL: _____ PCH 06

Return to: Europress Software, Freepost, Europa House, Adlington Park, Macclesfield SK10 4BY or Telephone 0625 859333.

©Europress Software 1993. BBC logotype ©BBC 1987. Licensed by BBC Enterprises Ltd. Gardeners' World wordmark, the BBC logotype and 'BBC' are trademarks of the British Broadcasting Corporation and are used under licence.

CLASSIC CONTEST

A BRIEF HISTORY OF DTP

DESKTOP Publishing is one of the most exciting aspects of computing developed over the past 10 years. It has a particular attraction for non-techy people and those who dream of setting up their publishing empires from a back bedroom.

It all began, though, on the Apple Mac. That computer's interface allowed the developers at Aldus to write software that imitated the traditional pasteboard set up of graphic artists and designers the world over. They called the program PageMaker and DTP as we know it was born.

The software was initially very expensive and aimed at professional users. The major competitor to PageMaker was Ventura. These products enjoyed a monopoly until QuarkXPress appeared in the late 1980s and quickly won favour with professional designers.

At this point the PC was still cloaked in Dos and was dominated by low-end products such as TimeWorks, Express Publisher and many others that have now gone to that great software store in the sky.

Windows freed the PC, and Serif were quick to capitalise on this releasing PagePlus 1.0 in 1991 despite legal threats from PageMaker who disliked the similarity of name and interface.

Aldus and Ventura both followed on to the PC platform as did QuarkXPress, belatedly. However, the market for DTP software on the PC is very different from the Mac. PageMaker and Ventura struggled to make sales while PagePlus soared.

Corel eventually bought Ventura, and Aldus facing intense pressure from QuarkXPress at the top of the PC market are desperately trying to increase revenues by selling a lower priced product, PageMaker Classic.

LAAAADIIEEES and gentlemen, welcome to the DTP world championship between the people's champion, PagePlus 3.0 and that former heavyweight contender, PageMaker from Aldus.

I say former because in an attempt to wrestle the title away from PagePlus, PageMaker has come out fighting in a new Classic version that has slimmed down in terms of size and pricing but promises to pack the same punch as the old heavyweight.

Yes, home users everywhere should be thrilled that Aldus have decided to release a cheaper but still high powered version of their award winning program. This product has a long and distinguished history (*see panel left*). For many users the full version with its full blown price was the yardstick by which all the competition was measured.

All that is except PagePlus. Serif's super-charged product has also won accolades throughout the industry. The product wasn't just a critical hit, it has sold hundreds of thousands of copies around the world and attracted a large and devoted following.

Its success however always begs the question: "If Serif can produce software this good at less than £100 how come the others can't?" Until recently the competition had no answers. Now PageMaker has taken up the PagePlus challenge.

PAGEPLUS 3.0

OWNERS of PagePlus 2.0 may have thought they had seen it all. The product was universally welcomed as the most comprehensive low-priced DTP program ever.

Now Serif have followed it up with version 3.0. Their modest aims for the product are "to provide more power than PageMaker 5.0 and to be easier to learn to use than Microsoft Publisher 2.0".

The first of these aims is way out of the realms of most home users. The power of version 2.0 was probably as much as most people will need. The second aim is Serif playing catch-up with Microsoft. When PagePlus 2.0 was released nobody, but nobody, complained that it was hard to learn or use.

With this release Serif are responding to what they believe is Microsoft's marketing wisdom.

When this is applied to new PC users, those who didn't grow up in the bad old days of Dos, it may carry some weight.

PagePlus is now showing signs of growing up. It's getting to be a big boy now, taking about 12Mb of space.

At installation it again shows that Serif have been learning at the Microsoft school of user friendliness. Each option can be selected or deselected. You can have spell checkers, thesaurus, templates and filters or you can decide to omit them.

All or none

UNFORTUNATELY, there's no way that you can select individual options within a selection. For instance, you can have all the text import filters or none – not just those you might actually need.

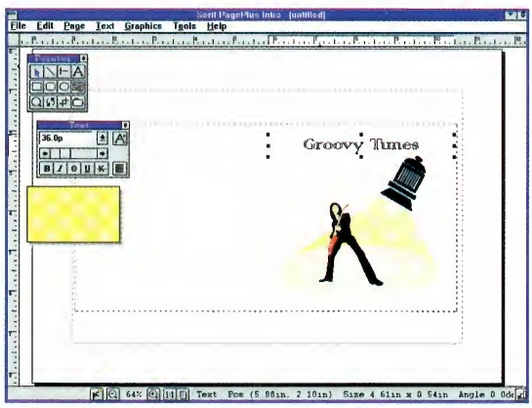
In addition to the changes they have made to the core product, Serif have included several add-ons designed to increase your DTP options: DrawPlus, TypePlus, TablePlus and PhotoPlus. All these will be included in the PagePlus Publisher Pack (*see panel opposite*).

This new release of PagePlus shows much more attention has been given to making the product accessible than in making it a technical market leader.

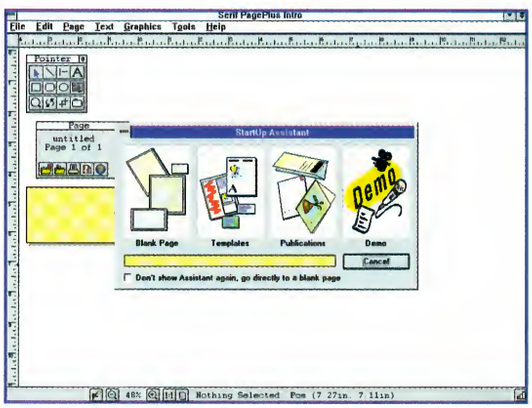
It's hard to imagine a £70 product needing three levels of usage but this is what PagePlus 3.0 offers with its intro, publisher and professional tiers. The intro stage is laden with help – exhaustive hand holding is how Serif describe it and it surely is.

The product now boasts automatic help that will flash advice on screen as you fumble your way through tasks and it has a quite comprehensive tutorial and demonstration mode as well. At each of the other two levels you can decide how much help you want and turn it on or off as you need it.

One really excellent implementation of

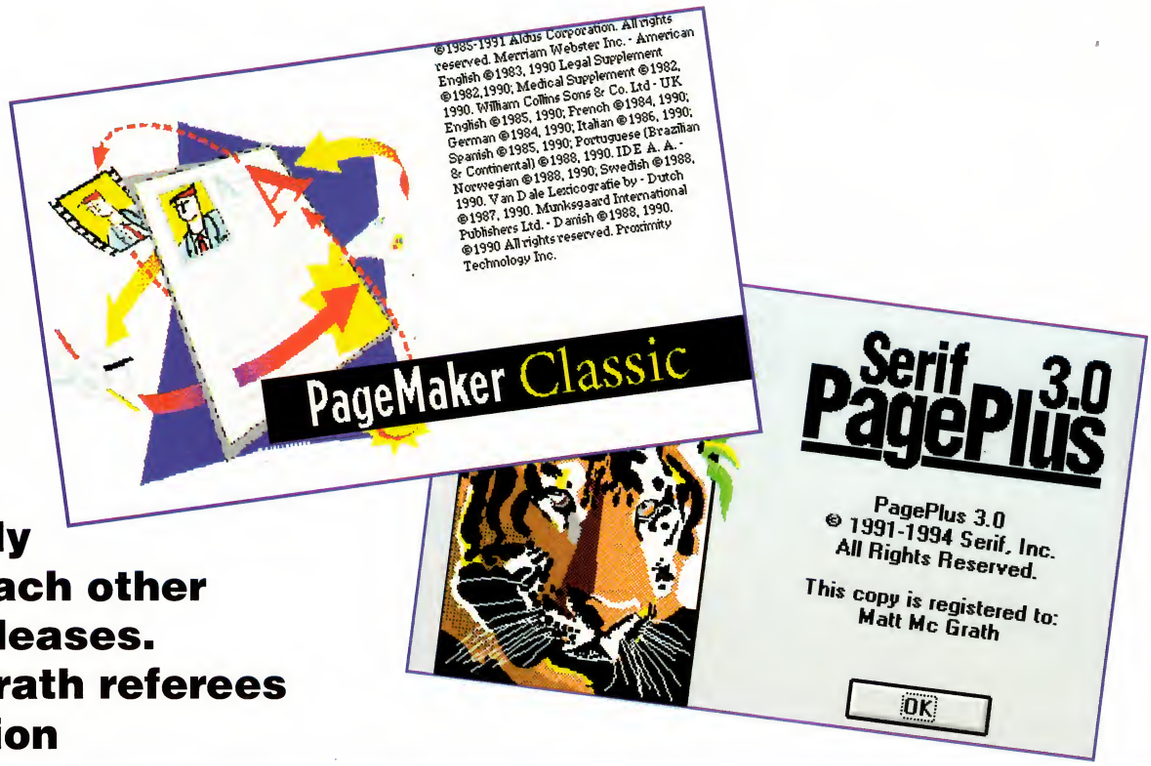


One of the many built-in templates – this one is for creating cassette sleeves



The startup assistant is only part of the comprehensive help system available

PageMaker and PagePlus have been vital to the development of DTP though they've both operated at different ends of the market. Now they finally square up to each other in their new releases. Matthew Mc Grath referees the confrontation



this helpful spirit is the Layout Checker which will go through your work and make suggestions on how to avoid common problems. Also in the help field, Serif have added a tip of the day service that can be useful or bizarre.

A good example of the latter is the one that informs you that the Spirit of Elvis is present! It will probably go down well in America.

You know you are dealing with a really helpful product each time you run the program and come across the start-up assistant. You are offered the choice of opening a blank page, existing publications, templates or running a demo instead. This option is very graphical and gets the beginner into the product very comfortably.

PagePlus's method of working is slightly different from other programs. It sees four different types of objects on its page – text, pictures, graphics or add-on objects. You select the type of object and then define all its attributes.

PagePlus 2.0 offered a very comprehensive range of features that are built on in this release. Most of these features won't trouble home users but it's comforting to know that they are there if you need them. This list includes advanced hyphenation and built-in automatic trapping – this is important if you are sending colour work to the printers.

The product also boasts top-notch typographical control in terms of absolute leading and set width controls. Layout is now more precise, measurements are finer and text wrap has been enhanced.

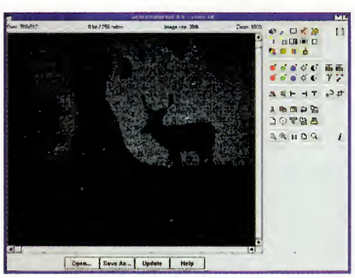
But the single most important addition for home users comes in the shape of WritePlus – a full-blown wordprocessor. This kicks in easily when you double click on a piece of text. It provides the facility to enter text easily and quickly as you would appreciate.

It has a spell checker, thesaurus, search and replace and a word count. One thing that I couldn't do in the beta version that I tested was change font in the wordprocessor mode – this seems an oversight and I'm sure the full version will see this included.

Serif certainly know their market and this new release is slick in terms of marketing and polish. The range of templates is very much aimed at the home market – it even has a template for cassette or video sleeves. If you've ever tried to create one in a wordprocessor you'll appreciate the ease with which it can be done in PagePlus 3.0

PagePlus 2.0 was a winner and there's no doubt that PagePlus 3.0 will be as well. At £59.95 this is the ideal product for a newcomer to the world of DTP and Serif should be lauded for the valuable contribution they have made to sensible pricing of high-quality software. If you're a home user into DTP you need PagePlus 3.0.

Product	**PagePlus 3.0**
Price	**£59.95, upgrade £19.95**
Supplier	**Serif**
Tel	**0602 421502**
✔	**Best help section in the best DTP product around**
✘	**Why aren't there more products like PagePlus?**
PCH Verdict	★★★★★★



PhotoPlus, the photo manipulation program, is available as an extra

PagePlus Publisher Pack

SERIF are not content just to let you have a darned fine DTP product with integral wordprocessor. They have devised four extras which will be included in the PagePlus Publisher Pack, due this summer at a likely price point of £99.95. Expect both disk and CD-Rom versions, the latter with extra clip art and fonts.

Users of version 2.0 of PagePlus will be familiar with TypePlus. This product lets you manipulate type and create all sorts of effects – this new version has seven, most of them fairly self explanatory such as spiral, curve, arc up and so on.

I felt the most impressive of the new programs is PhotoPlus. This is a photo manipulation program which is simple to use and can carry out a wide range of complex operations similar in many regards to what you can do with Picture Publisher and Corel's PhotoPaint addition. Simple controls, simple explanations of what each button does – it is simply excellent.

TablePlus is a brilliant implementation of technology. Tables can be a real pain in a document but if you set one in TablePlus your worries are over. The accompanying templates are excellent and more than most home users will ever need.

Working with the product is simplicity itself. So you want to move the lines on that invoice – simply move the bar on the side that corresponds to the line, just like a spreadsheet.

DrawPlus is also simple to use – it is one of the best drawing packages that a novice could use. It can stand on its own two feet against other products as it did against GST's Designworks when *PC HOME* compared them in the April issue.

PAGEMAKER CLASSIC

PAGEMAKER has always been important to the world of DTP. Aldus practically invented the genre in the first place. As is the way of computing, the inventor of a market is not always the one to reap the ultimate rewards.

Aldus did reap rewards from the top-end market for years making significant profits from selling a market leader at £700. The arrival of competition has made them seek out new outlets and they believe that the low-end market is where they can reassert themselves. To do this they have released PageMaker Classic.

It's simply PageMaker 4.0 with some clip art added on and a new front end. It suffers from the fact that 1992's software looks dated in 1994. For the home user it has a range of features that, while useful for high-end design work, will be little used on the home front.

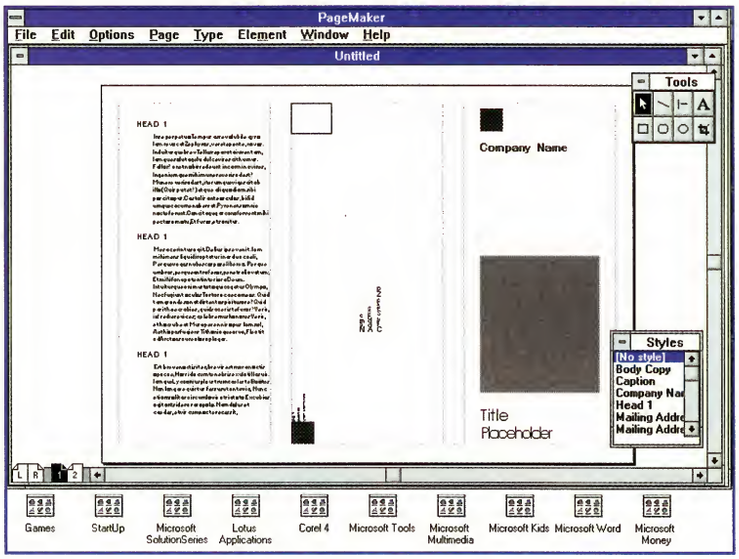
But if you have used DTP software before you may want to step up to the PageMaker level. Once mastered the product has much to offer in terms of features and will help you produce documents of a very high standard.

A number of difficulties will make new users feel unwelcome. Firstly there is the installation process. The product comes on six high density disks and allows you to select the filters that you want. Unfortunately, Word for Windows 6.0 is not an option.

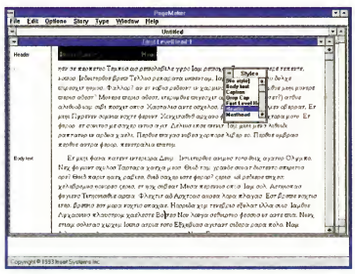
While Word 6.0 may not have penetrated deep into the home market at present, it seems rather silly to leave out a filter for what's likely to be the world's biggest selling wordprocessor.

Aldus employ a complex setup procedure for Classic that dates back to the early days of Windows. It creates two directories – one called Aldus, the other PM – and places some of the files that the product needs to work in both of them.

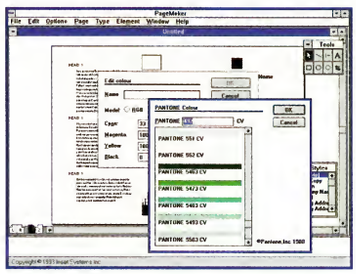
Move one of the directories and you'll encounter all sorts of problems when you try to run the program. Another defect is the lack of support for Orchid drivers. Classic works fine in SVGA but when I used my Fahrenheit drivers it caused a general protection fault.



Brochures are easily done with Classic. You can see how the view is spread across three pages



The wordprocessing element of Classic – called Story Editor



Defining a new colour is a complex process in PageMaker Classic

The clip art provided is amazingly cumbersome. Classic lets you install the pieces you want but it only refers to them by number – you have to check a supplied sheet to see what you're getting. This will not do!

In terms of supplied help, the tutorial with Classic doesn't exist. Lessons are provided in the manual and saved documents in the program but trying to piece these together is difficult enough for a professional never mind a beginner.

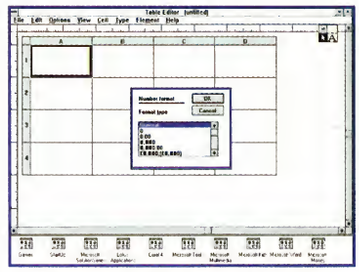
In operation Classic comes into its own. It uses the same idea of objects on a paste board as does PagePlus. It places a much greater emphasis on creating master pages which is more in keeping with established design practice than PagePlus. Working this way enforces a discipline that will improve your work. It makes you think about it a bit more before you launch into it.

PageMaker also treats text differently – you place it where you like in the format you want. There is also a story editor – a basic wordprocessor that lets you edit in situ. It works perfectly well without being spectacular.

However, a number of difficulties with PageMaker Classic certainly mitigate against it in use. For one it doesn't have any OLE implementation but still relies on DDE (dynamic data exchange) – a sort of precursor to OLE for those of you who don't remember. You can't view more than one document at once and some activities take you through a number of screens before you can actually use them.

It comes supplied with a good range of templates – all the ones that came with the original PageMaker 4.0 but the whole venture strikes me as a marketing stunt on Aldus's part. I presume they thought that the PageMaker name would sell – all they had to do was tart it up a bit, stick some clip art on it, cut the price and bingo! Success.

I feel that they've misunderstood the home DTP market completely. This product is very good at the wrong things for home users. It is very bad in the areas most important to home users such as ease of use and help when things go wrong. Oh how the mighty have fallen!



The table editor is a separate function

"I feel that they've misunderstood the home DTP market completely"

Product	**PageMaker Classic**
Price	**£70.44**
Supplier	**Aldus**
Tel	**081-568 8868**
✔	**Good range of features at a decent price**
✘	**Looks dated, not suited to new users**
PCH Verdict	★★★★☆☆

DTP or WP?

WHY should anyone who owns a sophisticated wordprocessor lash out further on a DTP program? It all boils down to the way that each program looks at the characters on the page.

Microsoft Word is the acknowledged leader in the world of wordprocessing. It is a sophisticated product that has innumerable features all designed to make work with text powerful and easy.

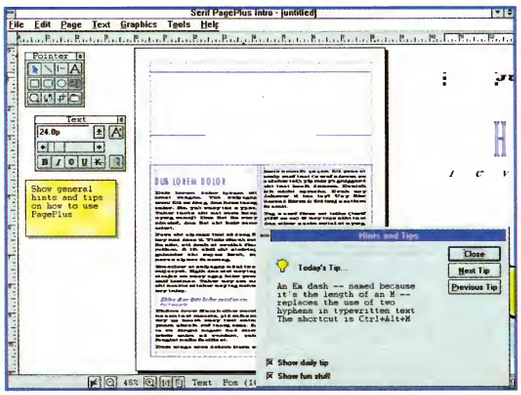
However, try as you might Microsoft Word is not very good when you introduce graphics and multi-column formats. It sees the page as a single item – with DTP each of the items on the page can be manipulated individually.

Wordprocessors have adopted this approach over the years, the most famous example being WordStar which proved a disaster for that company. Those who needed to do layout and design didn't want to make do with an uppity wordprocessor. Those who wanted pure wordprocessing didn't need the hassle of learning how to deal with frames.

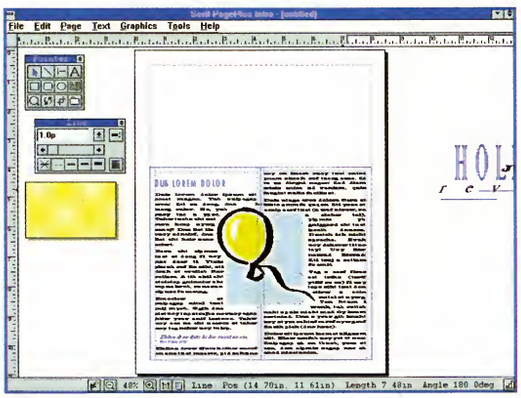
In essence the development of software means that DTP programs aren't so much threatened by wordprocessors as the other way around. Most DTP products now include a wordprocessing option as do both products on review. But it's a safe bet that however much the software develops the majority of users will want separate products for separate functions.

HOW TO DESIGN A NEWSLETTER

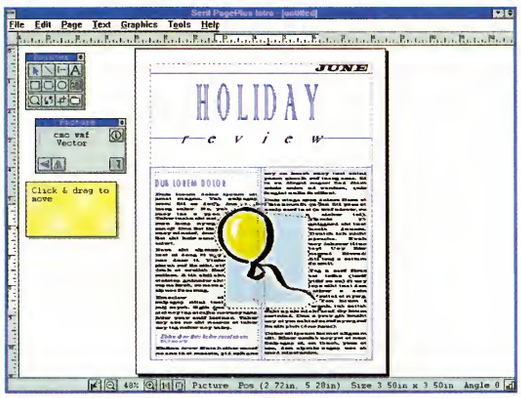
Serif PagePlus 3.0



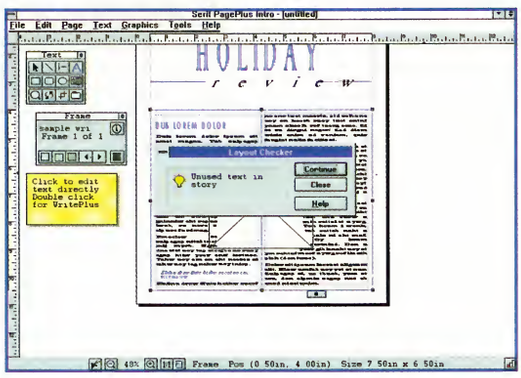
Step 1: The working screen with text in place. This particular page doesn't use a master page



Step 2: The text automatically wraps around an object when placed in the middle of the text



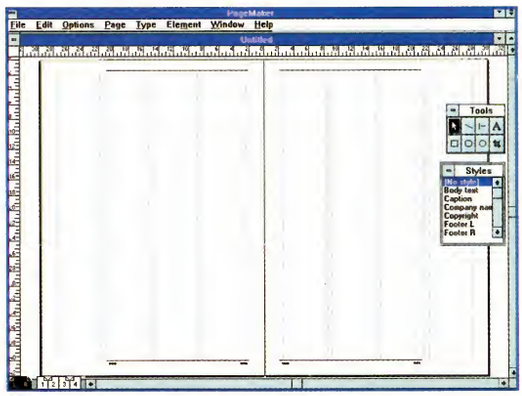
Step 3: The addition of headlines gives the newsletter a more familiar look

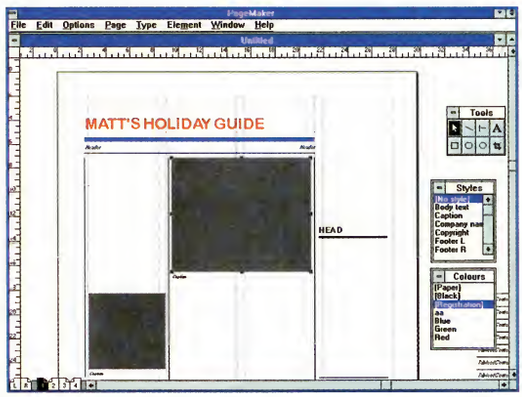


Step 4: Giving it a once over with the layout checker highlights some problem areas

Aldus PageMaker Classic

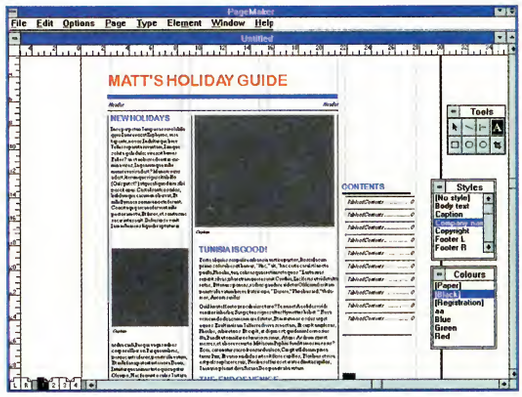
Step 1: Set up a master page for your newsletter. This is a three-column layout, very popular for newsletters

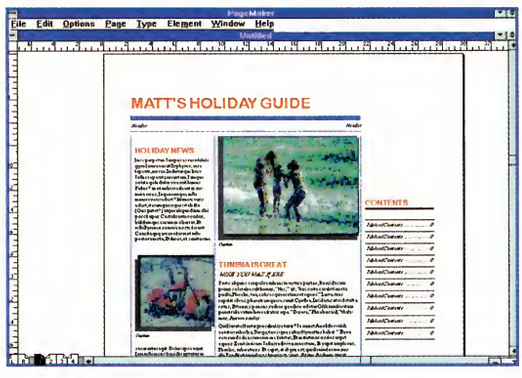




Step 2: It's a good idea to place graphic boxes and rules before you import the text

Step 3: As you add text it wraps around the graphics boxes that you've inserted





Step 4: The completed product. Introduce the colour pictures last because they'll slow down your scrolling around the screen

AND THE WINNER IS...

THERE is no doubt that PagePlus 3.0 offers more to new users than PageMaker Classic. It is leaps and bounds ahead of PageMaker in terms of ease of use and general usability. Both products score about level when it comes to features that home users will actually use and both are about even when it comes high-end features as well. PageMaker 4.0 was a classic in its day but time has moved on and PagePlus 3.0 is more suited to today's home market. PCH

Computers by Post

COMPANY & DEAL

Mail Order Leaders Since 1982

CONTENTS

- Toshiba Portables
- IBM ThinkPads
- IIBM PS/1's
- Dot Matrix Printers
- Inkjet Printers
- Laser Printers
- OKI 410 EX
- Mannesmann Tally T9005
- Canon BJ 200
- HP Printers
- PC Tools 2 for Windows — LOW PRICE
- Videologic 928 Movie
- Colani Designer Mouse
- WordPerfect SIX.0
- Microsoft Office 4.2
- Symantec-Norton Utilities 8 — NEW
- WIN/TV + Teletext
- Lotus SmartSuite

ComPuters by Post - the company

◆ 11 years experience in the direct channel and Part of a £100m multi-national group ◆

◆ As a group we are the largest "Direct Channel" reseller of PC's and related Products in the UK ◆

Computers by Post - the deal

◆ Lowest prices from stock ◆

◆ Big name, brand leading, quality products ◆

◆ Fast, efficient, first time service ◆

PORTABLES

TOSHIBA - NEW T1910 SERIES

Generating more Power

Powered by the SL-enhanced i486SX/33MHz Processor the range includes mono or colour screen versions with either 120 or 200MB hard disk. A PCMCIA 2.0 tyPe III slot is included as standard along with Toshiba DOS 6.0, MS Windows 3.1 and a MS BallPoint mouse. A full range of accessories is available.

Call for latest delivery details on the new T4800 with 500MB Hard Disk
Item No. 75121-U

T1910 120MB Item No. 72805-U **£1255**

T1910 200MB Item No. 72806-U **£1449**

T1910CS 120MB Item No. 72807-U **£1675**

T1910CS 200MB Item No. 72808-U **£1869**

T1950

The T1950 range of 40MHz 486DX2 are Intel SL Processor based machines. The T1950CT uses a colour active matrix disPlay.

Features: T1950CS/CT

- Processor: 486DX2 (40MHz)
- RAM: 4MB exPandable to 20MB
- 200 or 320MB hard disk (CS 200MB only)
- Internal 3.5" floPPy drive
- PCMCIA R2.0 tyPe III slot
- Microsoft BallPoint external Pointing device
- Weight: 3.3kg

Need a Deal? Call Us

T1950CT 200MB Item No. 74004-U **£2519**

T1950CT 320MB Item No. 74005-U **£2769**

Accessories Here

DESCRIPTION	PROCESSOR	RAM	DISK	SCREEN	ITEM NO.	PRICE
T1910	486SX/33	4MB	120MB	MONO	72805-U	£1255
T1910	486SX/33	4MB	200MB	MONO	72806-U	£1449
T1910CS	486SX/33	4MB	120MB	COLOUR	72807-U	£1675
T1910CS	486SX/33	4MB	200MB	COLOUR	72808-U	£1869
T1950CT	486DX2/40	4MB	200MB	ACT' COL	74004-U	£2515
T1950CT	486DX2/40	4MB	320MB	ACT' COL	74005-U	£2759

DESCRIPTION	PROCESSOR	RAM	DISK	SCREEN	ITEM NO.	PRICE
T3400CT	486SX/33	4MB	120MB	COLOUR	74598-U	£2649
T4600C	486SL/33	4MB	200MB	COLOUR	91661-U	£3069
T4600C	486SL/33	4MB	340MB	COLOUR	91662-U	£3319
T4700CT	486DX2/50	8MB	200MB	COLOUR	74599-U	£3359
T4700CT	486DX2/50	8MB	320MB	COLOUR	74600-U	£3599

"We will match ANY current Price advertised in this magazine"

olivetti

OLIVETTI PCS40

Olivetti's PCS40 range features powerful 486 processing in popular desktop and tower formats. 4MB of RAM is standard (expandable to 32MB). Features include 14" SVGA colour monitor, keyboard and PS/2 mouse, MS-DOS 6.0 and Windows 3.1. MS Works for Windows and Lotus Organiser are pre-installed. 12 months on-site warranty is provided.

PCS40	RAM/HD	Item No.	Price
486SX/25 D-TOP	4MB/120MB	73249-U	£849
486SX/33 D-TOP	4MB/120MB	73250-U	£915
486SX/33 TOWER	4MB/240MB	73252-U	£1025
486SX/33 TOWER	4MB/240MB	73254-U	£1149

THE NEW CANON BN100C BJ NOTEBOOK –

THE POWER TO DO BUSINESS WHEREVER YOU ARE

This unique notebook not only provides 486SX processor power but also an integrated Canon BubbleJet printer in one.

FEATURES: PROCESSOR

- 486SX/25 processor
- 4MB RAM (exp. to 12MB)
- 3½" 1.44MB or 200MB hard disk
- VGA, LCD Dual Scan STN Colour Display
- Type II and III compatible PCMCIA slot
- Pre-installed Windows 3.1 and MS-DOS 6.0

MODEL	HD	Item No.	Price
BN100C	120MB	72970-U	£2125
BN200C	200MB	72971-U	£2349

FEATURES: PRINTER

- Mono BubbleJet technology
- 360dpi resolution
- 116cps (at 10cpi)
- Emulations: IBM Proprinter, BJ130E and Epson LQ
- 10 sheet A4 sheet feeder
- Accessories supplied include 2 button trackball mouse, universal power adaptor and NiCad battery
- Canon 12 month on-site warranty

COMPAQ CONTURA 3/25 84MB WITH WINDOWS

£999 ITEM NO. 92668-U

PORTABLES

AST

The **Bravo range** uses a 486SX processor running at 33MHz, have 4MB of RAM expandable to 20MB, a 3½" internal floppy drive and one PCMCIA 2.0 type III slot. They also include **Local Bus Graphics.** Also featured is an integral trackball plus DOS 6.0 and Windows 3.1 pre-loaded on the hard disk. 12 months off-site warranty.

NEW

BRAVO NB	RAM/HD	Item No.	Price
486SX 33 MONO	4MB/120MB	75239-U	£1125
486SX 33 MONO	4MB/170MB	75240-U	£1175
486SX 33 COLOUR	4MB/120MB	75241-U	£1549
486SX 33 COLOUR	4MB/170MB	75242-U	£1599

POWEREXEC

Two versions of the **PowerExec** are available, one with a 25MHz 486SL processor and the other a 33MHz processor. Standard is an internal 3½" internal floppy drive VGA compatible TFT active matrix colour display, DOS 6, Windows 3.1 and a SmartPoint trackball (except the **PowerExec 4/25 model 120). Removable hard disk for added security. 12 months off-site warranty.**

POWEREXEC	RAM/HD	Item No.	Price
4/25SL COLOUR	4MB/120MB	73456-U	£2359
4/25SL COLOUR*	4MB/203MB	71197-U	£2519
4/25SL COLOUR*	4MB/203MB	72764-U	£2945
4/25SL COLOUR*	8MB/343MB	72765-U	£3195

***Includes MS-Windows 3.1 and SmartPoint trackball.**

CANON PRINTBOOKS

Based around a *TI 486SLC 25MHz processor*, the BN22 is available with a choice of either 85, 135 or 180MB of hard disk capacity. RAM as standard is 4MB expandable to a total of 12MB and *two PCMCIA version 2 slots* are included for further expandability. The integral BubbleJet printer produces high quality 360dpi output, ideal for both text and graphics applications and has an automatic sheet feeder holding up to 10 sheets of A4 paper. 12 months on-site warranty.

CANON BN22	RAM/HD	Item No	Price
486SLC/25 MONO	4MB/85MB	72281-U	£1699
486SLC/25 MONO	4MB/135MB	72282-U	£1999
486SLC/25 MONO	4MB/180MB	72283-U	£2195
CANON BN100C	**RAM/HD**	**Item No**	**Price**
486SX/25 COLOUR	4MB/120MB	72970-U	£2125
486SX/25 COLOUR	4MB/200MB	72971-U	£2349

COMPAQ PORTABLES

All the **Compaq** PC's featured include DOS 6.0, Windows 3.1 and a slip case. All come with a trackball, the Contura 4/25CX feature an integral trackball.

CONTURA	RAM/HD	Item No.	Price
4/25 MONO 486SL/25	4MB/120MB	72267-U	£1189
4/25 MONO 486SL/25	4MB/200MB	72268-U	£1349
4/25C COLOUR 486SL/25	4MB/120MB	72269-U	£1599
4/25C COLOUR 486SL/25	4MB/200MB	72272-U	£1775
4/25CX COLOUR 486SL/25	4MB/120MB	72273-U	£2269
4/25CX COLOUR 486SL/25	4MB/200MB	72274-U	£2519

CONTURA AEROs

These new sub-notebooks include LCD screen, one PCMCIA II slot, DOS 6, Windows 3.1, Lotus Organizer and Winlink. An optional external floppy drive is available.

AERO 4/25 MONO 486SX/25	4MB/84MB	72870-U	£845
AERO 4/25 MONO 486SX/25	4MB/170MB	72872-U	£1015
AERO 4/33C COLOUR 486SX/33	4MB/170MB	72874-U	£1429
AERO 4/33C COLOUR 486SX/33	4MB/250MB	72875-U	£1685

CONCERTO

The **Concerto** is available with a 25 or 33MHz 486SL processor and 120 or 250MB hard disk. They have a mono LCD display, internal 3½" floppy drive and one PCMCIA 2.01 type III slot. This revision of PCMCIA card allows you to insert and remove cards without switching the machine off. The unique feature of Concerto is its Pen feature. 36 month-warranty.

CONCERTO	RAM/HD	Item No.	Price
4/25 MONO	4MB/120MB	74017-U	£1519
4/25 MONO	4MB/250MB	74018-U	£1685
4/33 MONO	4MB/250MB	74019-U	£1849

IBM

The **ThinkPad 350** uses the energy saving 486SL processor running at 25MHz. It is available with 125 or 250MB hard disk and a choice of mono or possive matrix colour screen. It comes standard with DOS 5.02, Windows 3.1 and Lotus Organiser pre-loaded. Also features 1x PCMCIA Type II and IBM's TrackPoint II pointing device. 12 months off-site warranty is provided.

THINKPAD	RAM/HD	Item No.	Price
350 KOE 486SL/25 MONO	4MB/125MB	73961-U	£1415
350 LOE 486SL/25 MONO	4MB/250MB	73962-U	£1725
350C OOE 486SL/25 COLOUR	4MB/125MB	73963-U	£1799
350C POE 486SL/25 COLOUR	4MB/250MB	73964-U	£2115

NEC

The Verso E uses thepowerful 50MHz Intel SL enhanced 486DX2 processor with 8KB coche. This processing power makes it one of the most powerful notebook PCs available. It has 4MB of RAM as standard and comes with a 256 colour active matrix TFT colour display. For optimum graphics performance the Versa E uses Local Bus technology and thre is 1MB of VRAM as standard. It is supplied with DOS 6 and Windows 3.1 pre-loaded on the hard disk, plus there is a front mounted track ball. Two PCMCIA 2.0 type II slots or one type III as standard along with 12 months on-site warranty.

VERSA E	RAM/HD	Item No.	Price
4/50 COLOUR 486DX2/50	4MB/209MB	74995-U	£3225
4/50 COLOUR 486DX2/50	4MB/340MB	74996-U	£3499

TWINHEAD

The **SlimNote SLM-4SC/33M** uses a Cyrix 486SLC 33MHz processor to provide powerful entry level processing and comes as standard with a mono LCD display and 2MB of RAM. A TFT Active Colour Matrix screen, capable of displaying up to 256 brilliant colours, is featured on all colour SlimNotes. All come as standard with MS-DOS 6.0, Windows 3.1, a carry case and a serial mouse as standard and 12 month off-site warranty.

SLIMNOTE	RAM/HD	Item No.	Price
SLM-4SC/33M MONO LCD	2MB/80MB	73229-U	£944
SLM-4DX/33T TFT COLOUR	4MB/400MB	73231-U	£2625
SLM-4DX/33T TFT COLOUR	4MB/340MB	74819-U	£2769
SLM-4DX/66T TFT COLOUR	4MB/200MB	73233-U	£2849
SLM-4DX/66T TFT COLOUR	4MB/340MB	74820-U	£2985

DESKTOPS

AST BRAVO LC

The **AST BRAVO LC** range offers high specification and high quality at low prices. Whichever system you choose you will receive a complete system all ready to use. A low radiation 14" SVGA colour monitor, local bus graphics, enhanced keyboard, DOS 6 and Windows 3.1, 3 free 5¼" bays, 4 x 16-bit expansions slots, 2 button mouse, mouse mat and 12 months return to base warranty.

BRAVO LC CPU	MHz	RAM	HD	Item No.	Price
4/25s	486SX	25MHz	4MB	120MB	73868-U	£859
4/33	486DX	33MHz	4MB	120MB	73870-U	£1099
4/33	486DX	33MHz	4MB	210MB	73871-U	£1269
4/66d	486DX	66MHz	4MB	210MB	73873-U	£1589

COMPAQ PROLINEA

1 YEAR ON-SITE MAINTENANCE

Prolineas are expandable to 32MB of RAM and have the following features as standard. Local bus graphics PS/2 compatible keyboard and mouse, MS DOS 6.0 (pre-installed), Windows 3.1, 1 free 5¼" drive bay, 3 x 8/16-bit expansion slots, 12 months on-site maintenance and 24 months return to base, A MONITOR IS NOT SUPPLIED. SEE OVER.

PROLINEA CPU/MHz	RAM/HD	Item No.	Price
4/25s 486SX/25	4MB/120MB	72310-U	£725
4/25s 486SX/25	4MB/240MB	72311-U	£775
4/33s 486SX/33	4MB/120MB	73927-U	£735
4/33s 486SX/33	4MB/240MB	73928-U	£783
4/33 486DX/33	4MB/120MB	72314-U	£915
4/33 486DX/33	4MB/240MB	72315-U	£959
4/50 486DX/50	4MB/120MB	72316-U	£959
4/50 486DX/50	4MB/240MB	72317-U	£999
4/66 486DX/66	4MB/120MB	72318-U	£1085
4/66 486DX/66	4MB/240MB	72319-U	£1125

PACKARD BELL

1 YEAR ON-SITE MAINTENANCE

Packard Bell's Force range represents value for money. All configurations include RAM expandable to 20MB, local bus graphics, 14" SVGA low radiation monitor, enhanced keyboard, mouse, DOS 6 and Windows 3.1 (both pre-installed), at least 1 free 5¼" drive bay, a minimum of 3x16-bit expansion slots and 12 months on-site warranty with FREEPHONE SUPPORT. All packages come with Navigator, MS Money, MS Works and Entertainment pack as standard.

MODEL	RAM	HD	Item No.	Price
Force 486SX/33H	4MB	170MB	73942-U	£905
Force 486SX/33Q	4MB	250MB	73943-U	£1035
Force 486SX/33TQ	4MB	250MB	73944-U	£1249
Force 486DX2/50TQ	4MB	250MB	73945-U	£1379
Force 486DX2/TV	4MB	340MB	73946-U	£1685

Computers by Post

For Contents See 1st page of this Ad

COMMUNICATIONS/MONITORS/MULTIMEDIA

Mail Order Leaders Since 1982

MONITORS

TAXAN

Model	Size	Display	Item No.	Price
Supervision 787	14"	SVGA	94578-U	£209
Supervision 787 LR	14"	SVGA	94726-U	£219
Multivision 788 LR	14"	1024 x 768	74481-U	£259
Multivision 789 LR	14"	1024 x 768	72619-U	£289
Multivision 795	14"	Trinitron	72406-U	£489
Ergovision 580 LR	15"	1280 x 1024	72720-U	£349
Ergovision 865+ LR	17"	1280 x 1024	74309-U	£619
Multivision 875+ LR	17"	1600 x 1200	92823-U	£729
Ergovision 885 LR	17"	1600 x 1200	93812-U	£729
Ultravision 1075 LR	20"	1280 x 1024	73923-U	£1449
Ultravision 1095 LR	20"	Trinitron	74459-U	£1599

GOLDSTAR

Model	Size	Display	Item No.	Price
GS1460 SSI	14" LR	SVGA	92102-U	£185
GS1465 SSI	14" LR	SVGA	92103-U	£199
GS1510 SSI	15" LR	SVGA	72185-U	£279
GS1715 SSI	17" LR	SVGA	72186-U	£529

NEC

Model	Size	Display	Item No.	Price
3V	15" LR	MultiSync	74292-U	£359
4FGe/pm	15" LR	MultiSync	74293-U	£505
5FGe/pm	17" LR	MultiSync	74294-U	£759
5FGP	17" LR	MultiSync	74297-U	£949
6FGP	21" LR	MultiSync	74298-U	£157

CALL FOR TAXAN AND SPEA GRAPHICS CARDS

APPROVED for connection to telecommunication systems specified in the instructions for use subject to the conditions set out in them.

FACSIMILE

FAX MACHINES

BT DF100, ALPINE	*	93668-U	£215
BT DF100, DARK GREY	*	93614-U	£215
BT CF75, ALPINE	*	92009-U	£340
SAMSUNG SF 40	*	93801-U	£199
SAMSUNG SF 500	*	92016-U	£236
PANAFAX UF-123	*	92010-U	£289
PANAFAX UF-128M	*	92693-U	£359
PANAFAX UF-280M	†	93603-U	£785

FAX/ANSWERING MACHINES

Panasonic KX-F2300BE	*	93685-U	£345
Panasonic KX-F2400BE	*	93682-U	£379
Toshiba TF-U71	*	92013-U	£459

PLAIN PAPER FAX MACHINES-INKJET

Canon B200	*	92014-U	£649
Panafax UF-321	*	93725-U	£675
Panafax UF-322	*	93726-U	£769
Toshiba TF-511	*	92343-U	£649

PLAIN PAPER FAX MACHINES-LASER

HP FAX-900	*	93761-U	£599
HP FAX-950	*	93762-U	£725
OKIFax 1000	*	93658-U	£979
PANAFAX UF-733	*	94868-U	£1275
PANAFAX UF-766	*	94869-U	£1699

FAX WARRANTY

* 12 Months on-site warranty.

† No on-site cover provided.

NETWORKING

ETHERNET CARDS

Eagle NE-1000	72375-U	£62
Eagle NE-2000+	74972-U	£63
Eagle NE-2000+ 5-Uack	74806-U	£291
Eagle NE-2000T	94762-U	£80
Eagle NE 2000 Plus-3	72000-U	£73
Eagle NE 3200 Bus Master	94056-U	£390

Eagle Cards were formerly titled Novell

3 COM 3C509	72530-U	£79
3 COM 3C509 5-UACK	73152-U	£345
3 COM 3C509 TP	73153-U	£79
3 COM 3C509 TP 5-UACK	73154-U	£345
3 COM 3C509 COMBO	73155-U	£89
3 COM 3C579	73157-U	£149
3 COM 3C529	73158-U	£149

CALL FOR MULTI-UACK PRICES

SMC ULTRA 16	74605-U	£70
SMC ULTRA 16T	74609-U	£70
SMC ULTRA 16 C	74611-U	£85
D-LINK DE-220	72454-U	£55
D-LINK DE-220C BNC	74770-U	£54
D-LINK DE 220CT	72461-U	£66
D-LINK DE 320CT	72463-U	£105
D-LINK DE-220T RJ-45	74771-U	£57

CALL FOR BOOT PROMS

TOKEN RING CARDS

IBM 16/4 TOKEN RING ADAPTOR -ISA- 125F9522	92855-U	£262
IBM 16/4 TOKEN RING ADAPTOR/ A-MCA – 92F4520	92856-U	£345
IBM 16/4 BUS MASTER-MCA-74F4148	92857-U	£355
SMC TOKEN CARD ELITE 16/4MBIT-ISA	72646-U	£189
SMC TOKEN CARD ELITE/A 16/4MBIT – MCA	72649-U	£209

PARALLEL PORT ETHERNET ADAPTORS

PC-ZEN Pocket Network Adaptor BNC & RJ-45	72003-U	£165
D-Link DE-620 LAN Adaptor BNC only	72004-U	£115
D-Link DE-620CT Pocket LAN adaptor RJ-45 only	72006-U	£125
Xircom Pocket Thin Ethernet Adaptor III-BNC only	72401-U	£212
Xircom Pocket Twisted Pair Ethernet Adaptor III RJ-45 only	72402-U	£212
Xircom Pocket Thin and Twisted pair Ethernet Adaptor II-BNC & RJ-45	72405-U	£243

MULTIMEDIA

CD ROM DRIVES

NEC (SCI 1&2 I/F)

Model	Item No.	Price
2xi Internal	74794-U	£149
3xp Portable	74359-U	£308
3xe External	74360-U	£370
3xi Internal	74361-U	£293
4xPro External	74781-U	£629

NEC (SCSI I/F KITS)

AT ISA BUS	74362-U	£76
PS/2 MCA BUS	74363-U	£76
PARALLEL PORT	74364-U	£76
APPLE MAC	74365-U	£76

HITACHI

Hitachi CDR-6700Y, Internal, 2x	74164-U	£267
Hitachi CDR-1850S, External, SCSI	73262-U	£373
Hitachi ISA I/F Kit (HIT/138/01)	73263-U	£60

PANASONIC

Panasonic CR-562, Internal, ATI/F inc.	74325-U	£171

SOUND CARDS

CREATIVE LABS

Model	Item No.	Price
Sound Blaster II Deluxe	92370-U	£64
Sound Blaster Pro Plus (ISA)	92371-U	£131
Sound Blaster Pro Deluxe (ISA)	73818-U	£99
Sound Blaster 16 Basic	72747-U	£108
Sound Blaster 16 SCSI-2	72748-U	£139
Sound Blaster Pro Plus (ISA)	72749-U	£159
Midi Adaptor (1 in, 1out)	74342-U	£19
Creative Labs Speakers (Sound Blaster Only)	74625-U	£18

MEDIA VISION

ProSonic 16	72759-U	£75
Pro Sonic SCSI 2	72760-U	£112

VARIOUS

Gravis Ultra Sound, 16 BIT	71180-U	£105
Logitech Audioman	72589-U	£79
MS Window Sound System (Software and Mic.)	31988-U	£39
MS Windows Sound System (Full Product)	31989-U	£129

VIDEO CAPTURE CARDS

HAUPPAUGE

Win/TV Celebrity	75011-U	£275
Win/TV Celebrity + VFW	75012-U	£312

INTEL

Smart Video Recorder (ISA bus only)	73677-U	£359

CREATIVE LABS

VideoBlaster +VFW	74783-U	£235

VIDEOLOGIC

Captivator +VFW	74780-U	£212

GRAPHICS/SOUND CARDS

VIDEOLOGIC	BUS		
928 MOVIE – 1MB VRAM	ISA	75009-U	£269
928 MOVIE + SOUND 1MB VRAM	ISA	75010-U	£359
928 MOVIE – 1MB VRAM	LOCAL	75127-U	£269
928 MOVIE + SOUND 1MB VRAM	LOCAL	75128-U	£359

MODEMS

INTERNAL/PCMCIA

DATAFLEX– 5 year warranty

GEM PCMCIA-2 FAX & DATA PCMCIA-2 V22BIS, FAX	72228-U	£189

INTEL – 3 year warranty

SATISFAXTION CARD – ISA V22BIS, FAX	73678-U	£289

PACE – 5 year warranty

MICROLIN FX 32 PLUS PC ISA 16-BIT V32BIS, FAX	73889-U	£149
MICROLIN FX NB32 + V32bis FAX PCMCIA 2.0	74703-U	£239

PSION – 1 year warranty

DACOM GOLD CARD PCMCIA 2.0 modem	74526-U	£283

PORTABLE

DATAFLEX – 5 year warranty

GEM FAX & DATA V22BIS	73107-U	£100
SUPER GEM FAX & DATA V32BIS, FAX	73752-U	£212

PACE – 5 year warranty

MICROLIN FX V22BIS, FAX	94835-U	£119
MICROLIN FX 32 PLUS V32BIS,FAX	72169-U	£179

WORLDPORT – 5 year warranty

14.4 DATA/FAX V32BIS, FAX	91030-U	£194

APPROVED for connection to telecommunication systems specified in the instructions for use subject to the conditions set out in them.

See Software listings for communications and fax software.

CALL FOR MODEM CABLES

DESKTOP

CRAY (was DOWTY) – 1 year warranty

QUATTRO V32BIS, FAX	72953-U	£295

EUROVIVA – 5 year warranty

EUROVIVA 14.4 V32BIS FAX	72919-U	£189

HAYES – 2 year warranty

OPTIMA 96, V32, FAX	74773-U	£294
OPTIMA 144, V32BIS FAX	74774-U	£319
OPTIMA 288, V.FAST FAX	74775-U	£496
OPTIMA 24 V22BIS	92652-U	£219
OPTIMA 96 V32	92653-U	£295
OPTIMA 144 V32BIS	92654-U	£319
ULTRA 96 V32	71558-U	£399

MULTITECH – 2 year warranty

MT1432BLK V32BIS, FAX	91011-U	£345
MT1932 ZDXK V32bis, FAX	74941-U	£181

PACE – 5 year warranty

LINNET 24 V22BIS	73446-U	£109
LINNET QUAD V22BIS, FAX	74345-U	£119
LINNET 32 PLUS V32BIS, FAX	74346-U	£209
U'LINK 32 PLUS V32BIS	94527-U	£359

US ROBOTICS – 5 year warranty

SPORTSTER QUAD WITH FAX V22BIS, FAX	73091-U	£109
SPORTSTER 14.4 WITH FAX V32BIS, FAX	91017-U	£142
COURIER V32BIS WITH FAX V32BIS, FAX	72645-U	£313
COURIER HST DUAL STANDARD 16.8 WITH FAX V32BIS, FAX	72561-U	£425
COURIER V32BIS Terbo, FAX	74698-U	£369

COMPUSERVE

CompuServe Membership Kits provide access to the world's largest on-line information service with over 1.3 millions users.

CompuServe Membership Kit for		
Windows 1.2 – Dual Media	75037-U	£18.95
DOS V2.1 – Dual Media	73220-U	£18.95
Macintosh – 3.5"	73221-U	£18.95

MULTIMEDIA UPGRADE KITS

	CREATIVE LABS		QCD	
	CD	CD 16 Discovery	LC	HC
CD-ROM Drive	Panasonic CR-563 Dual		LaserMate 328 Double Speed	Toshiba XM3401B Double Speed
Av. Access Time	320ms		350ms	200ms
Sound Card	SoundBlasterPro	SoundBlaster 16	LaserWave Supra 16	Mediavision Pro Audio Spectrum 16
Microphone	Not supplied	Yes	No	Yes
Speakers	Boosted	Pro-Digital	No	CP18 Active
Recommended System Requirements	386SX, 2MB RAM, 30MB HD VGA, DOS 3.1, Windows 3.1, free 5¼" bay & 16-bit exp' slot		Minimum 386SX, 2MB RAM, DOS 5.0, Windows 3.1, Free 5¼" Drive Bay and 16 bit expansion slot	
Software included on CD-ROM	MidiSoft Multimedia Music Explorer		Holo Desktop, Return to Zork	Asymetrix Asymedia Personal Edition
	MPC Battle Chess	STW M'Media Encyclopedia, Kodak Photo CD Access, Loom, Monkey Island Animals, Secret Weapons of the Luftwaffe	NEW LOW PRICE	
Other Contents	–		Manual, cables and audio utilities including Voice Recognition, Voyetra, Monologue	Manual, cables and audio utilities including Monologue, Midi-Sequencer, Pocket Recorder and Mixer
Order No.	74331-U	74332-U	72878-U	72879-U
Price	£319	£429	£199	£449

"We will match any confirmed price advertised in this magazine"

Computers by Post

For Contents See 1st page of this Ad

PORTABLES

Mail Order Leaders Since 1982

THE THINKPAD 350 RANGE FROM IBM

Using the energy saving 486SL (25MHz) chip the 350 provides a choice of hard disk sizes, mono or passive colour screens but always provides PCMCIA expansion, IBM's unique TrackPoint II pointing device and IBM DOS 5.02, Windows 3.1 and Lotus Organiser pre-loaded.

ThinkPad 350 Features:

- *486SL (25MHz) Processor*
- *4MB RAM (expandable to 20MB)*
- *125MB or 250 MB Hard Disk*
- *1 x 3½" 1.44MB Floppy Drive*
- *Mono or Passive Colour Display*
- *Rechargeable NiMH Battery*
- *1 x PCMCIA Type II Expansion Slot*
- *Mains cable/AC adaptor, TrackPoint II & Manuals*
- *12 Months off-site Warranty*

Prices from £1245

CALL FOR LATEST MODELS

ThinkPad	Display	Hard Drive	Item No.	Price
350 K0E	Mono	125MB	*73961-U*	£1415
350 L0E	Mono	250MB	*73962-U*	£1725
350C 00E	Colour	125MB	*73963-U*	£1799
350C P0E	Colour	250MB	*73964-U*	£2115

DESKTOP PROCESSORS

TRY THE NEW IBM PS/1 RANGE

Helpware IBM

Prices from £849

IBM's enhanced range of ready to use PS/1's include additional RAM, more hard disk memory and faster processor speeds; all of which provides an amazing price/performance ratio.
This is all without considering the valuable range of pre-loaded software provided, IBM Helpware and a 12 months warranty.
All models include Local Bus graphics acceleration and IBM's **Smart Energy Mode**, a power saving feature that powers down your PC after a user-definable period of inactivity.
Full product specifications and pricing details are included below.

FEATURES:

- *486 processor*
- *4MB RAM (expandable to 64MB)*
- *Local bus graphics*
- *14" SVGA colour monitor (582/593 are multi-synch) with Windows accelerators*
- *Keyboard and mouse included*
- *1 x 3½" 1.44MB floppy drive*
- *All 2133 models include one free 5¼" bay*
- *642 – 3 x 16 bit expansion slots. All others – 5 x 16 bit expansion slots*
- *Includes MS-Works 3 for Windows and Quicken 2 for Windows*
- *12 months off-site warranty and full IBM Helpware support as standard*

PS/1	CPU/MHz	Case	HD	Item No.	Price
2133-642	SX/25	D/Top	170MB	*72880-U*	£849
2133-571	DX/33	D/Top	129MB	*74376-U*	£949
2133-652	SX/33	D/Top	170MB	*72881-U*	£925
2133-653	SX/33	Tower	253MB	*72883-U*	£959
2155-582	DX2/50	D/Top	170MB	*74377-U*	£1279
2155-593	DX2/66	D/Top	253MB	*74378-U*	£1479
2155-644	SX/250	D/Top	253MB	*71133-U*	£1115
2155-685	DX2/66	D/Top	340MB	*71134-U*	£1375
2155-686	DX2/66	Tower	340MB	*71135-U*	£1459

LOW PRICES

NEW

SPECIAL MULTIMEDIA OFFER

571 With QCD LC multimedia upgrade installed, speakers and 2 CD-ROMs

£1275 Item No. 71131-U

Sales Lines Open
Mon–Fri 9.00am – 6.30pm
Sat 9.00am – 1.00pm

TEL (081) 982 6380
FAX (081) 982 6367

TELEPHONE ORDERS
All Charges Ex VAT per Order for the UK Mainland (For First 25Kgs)

DELIVERY CHARGES
UK Offshore & Other Delivery Options – Call For Details

FAX/POSTAL ORDERS

PC's & Lasers	All Other Products
£6.50	£4.95
£4.95	£3.95

Payment terms:
Cheque & Credit Card, Proformas immediately available upon request

Access · American Express · Visa · Switch

Full details of How To Order and our address are available on Software III at the end of this ad

All prices exclude delivery and VAT at 17.5%

"We will match any confirmed price advertised in this magazine"

PORTABLES & PROCESSORS

Computers by Post

For Contents See 1st page of this Ad

PRINTERS & PERIPHERALS

Mail Order Leaders Since 1982

Pick up the Best Buy

MANNESMANN *Tally*

T9005 Page Printer

- 5 pages per minute
- Windows compatible
- 250 sheet capacity
- Long life consumable
- 26 bit-mapped fonts
- PostScript model also available
- One year on-site warranty

WHAT PC? BEST BUY

£399 Item No. 93749-U

Canon

The **BubbleJet 200** offers you, silence, speed and high resolution with a compact and stylish design.

FEATURES:

- 80 column
- Mono
- 360dpi
- 248cps draft, 173cps LQ
- 80 sheet A4 feeder
- 12 months off-site warranty

£185 Item No. 71112-U

OKI Technology of Tomorrow

OL410ex LED Page Printer

- 4 pages per minute
- PCL5 compatible
- 600 dpi with MicroRes 600
- 1MB RAM
- 12 scalable fonts
- 12 months on-site warranty

£529 Item No. 74833-U

JETRAM LASER MEMORY

Call for latest prices on best quality compatible memory. For example

HP LaserJet4 4MB £145

Also: Brother, Canon, Epson, IBM/Lexmark...

LASER PRINTERS

Make/Model	Item No.	Price
Brother HL-6i, 6ppm	72827-U	*£445
Brother HL-6V, 6ppm	74085-U	*£465
Brother HL-10H, 10ppm	73224-U	*£984
Epson EPL-5200, 6ppm	71436-U	*£487
Fargo Primera, 2.5ppm	73948-U	†£629
HP LaserJet 4L, 4ppm	71690-U	†£469
HP LaserJet 4P, 4ppm	74212-U	†£719
HP LaserJet 4ML, 4ppm	73283-U	†£749
HP LaserJet 4Si, 16ppm	71692-U	*£2189
HP LaserJet 4Si/MX, 16ppm	71756-U	*£3275
HP LaserJet 4, 8ppm	71527-U	†£959
HP LaserJet 4M, 8ppm	71829-U	†£1288
HP LaserJet 4MP, 4ppm	74274-U	†£983
Call for prices with HP SupportPack for 3 year on-site cover and peace of mind		
IBM 4037 5E, 5ppm	72787-U	*£494
IBM 4039 10R, 10ppm	73165-U	*£1025
IBM 4039 10RD, 10ppm	73187-U	*£1425
IBM 4039 16L, 16ppm	73188-U	*£2349
M Tally T9005, 5ppm	93749-U	*£399
NEC SuperScript 610, 6ppm	74724-U	*£429
Oki OL400ex, 4ppm	71495-U	*£399
Oki OL410ex, 4ppm	74833-U	*£529
Oki OL810, 8ppm	94717-U	*£799
Panasonic KX-U4400, 4ppm	72716-U	**£369
Panasonic KX-U4410, 5ppm	92624-U	**£384
Panasonic KX-U4430, 5ppm	94780-U	**£492
Panasonic KX-U4440, 10ppm	74084-U	**£779
Panasonic KX-U5400, 4ppm	72717-U	**£649
QMS PS860 PostScript, 8ppm	71241-U	*£2899
Star LS-5, 5ppm	91629-U	*£389
Star LS-5EX, 5ppm	91630-U	*£500
Star LS-5TT, 5ppm	91631-U	*£549

See Warranty Key Below

INKJET PRINTERS

CANON	ITEM NO.	PRICE
BJ10SX Black	71605-U	†£141
BJ10SX White	71606-U	†£141
BJ200	71112-U	†£185
BJ230	91525-U	†£242
BJ300	71393-U	*£321
BJ330	71394-U	*£372
BJC600 Colour	73863-U	†£412
BJC800 Colour	94805-U	*£1074
EPSON		
STYLUS 300	74218-U	†£159
STYLUS 800	71603-U	†£195
STYLUS 1000 (A3)	73842-U	†£349
HEWLETT PACKARD		
DeskJet 310	74213-U	†£169
DeskJet 310 + CSF	74214-U	†£203
DeskJet 520	72904-U	†£189
DeskJet 500C Col	94080-U	†£254
DeskJet 560C Col	72905-U	†£379
DeskJet 1200C Col	71694-U	†£1095
DeskJet 1200C/PS Col	74010-U	†£1619
PaintJet XL300 Col	71569-U	†£1619
IBM/LEXMARK		
ExecJet 4072 (132 column)	94510-U	†£459
ExecJet 4076 (80 column)	72786-U	*£199
STAR		
Star SJ48	73473-U	*£149
Star SJ144	73981-U	†£289

LOW PRICES

PLOTTERS

HEWLETT PACKARD	Size	Item No.	Price
7440AU	A4	71570-U	†£744
7475AU	A3	71571-U	†£1049
7550B Plus	A3	71578-U	†£2369
CALCOMP			
DESIGNMATE 3024M	A1	71616-U	†£1680
DESIGNMATE 3036M	A0	74302-U	†£2099

See Warranty Key Below

DOT MATRIX PRINTERS

BROTHER	ITEM NO.	PRICE
M1918 18 Pin	72333-U	*£330
M4318 18 Pin	94785-U	*£839
EPSON		
LX-850 9 Pin	71163-U	†£136
LX-1050 9 Pin	94390-U	†£176
FX-870 9 Pin	71036-U	†£231
FX-1170 9 Pin	71018-U	†£290
LQ-100 24 Pin	92089-U	†£122
LQ-150 24 Pin (I. Col. Kit)	74987-U	†£174
LQ-570+ 24 Pin	71610-U	†£195
LQ-870 24 Pin	94019-U	†£357
LQ-1070+ 24 Pin	73860-U	†£287
LQ-1170 24 Pin	94020-U	†£411
LQ-2550 24 Pin Col.	71307-U	†£685
NEC		
PinWriter P2Q 24 Pin	72782-U	*£137
PinWriter P32Q 24 Pin	71718-U	†£255
PinWriter P62 24 Pin	71159-U	†£335
PinWriter P72 24 Pin	71499-U	†£398
PinWriter P90 24 Pin	71059-U	†£579
OKI		
ML280 9 Pin	73128-U	†£185
ML320 9 Pin	71313-U	†£305
ML321 9 Pin	71317-U	†£365
ML395B 24 Pin	71795-U	†£635
ML520 9 Pin	71482-U	†£359
ML521 9 Pin	71483-U	†£395
ML591 24 Pin	71020-U	†£499
PANASONIC		
KXP1150 9 Pin	72974-U	†£99
KXP1170 9 Pin	94372-U	†£95
KXP2023 24 Pin	73145-U	†£125
KXP2123 24 Pin Col.	94716-U	†£159
KXP2123M 24 Pin	92732-U	†£135
KXP2624 24 Pin	94411-U	*£255
STAR NEW LOW PRICES		
LC100 9 Pin Col.	92667-U	†£95
LC15 9 Pin	71797-U	†£185
LC24-100 24 Pin	92861-U	†£99
LC24-300	74066-U	†£189
LC24-15 Mk II	72783-U	†£235
LC24-20 Mk II	72290-U	†£125
LC24-30	74064-U	†£159
XB24-250 24 Pin Col.	94005-U	*£387

See Warranty Key Below

Call for prices with HP SupportPack for 3 year on-site cover and peace of mind

TERMINALS

Please follow the instructions to ensure a successful purchase. Wyse terminals are sometimes available with a choice of W (white), G (green) or A (amber) screens this must be stated at time of order. Also the terminals below come without a keyboard, please order this separately.

WYSE (no keyboard)	Item No. Green	Amber	White	Price
WY-60	92210-U	92211-U	92212-U	£237
WY-120	92217-U	92211-U	92216-U	£223
WY-120ES	-	-	92219-U	£244
WY-160	92213-U	92214-U	92215-U	£275
WY-325 COLOUR	-	-	*92220-U	£295
WY-370 COLOUR	-	-	*73423-U	£635
WYSE (ANSI keyboard supplied)				
WY-185	71367-U	71368-U	71371-U	£248
WY-185ES	-	-	72814-U	£419
WY-285	73421-U	73420-U	73419-U	£227
WY-285ES	-	-	73422-U	£237
All with 12 months off-site warrenty				
WYSE Keyboards				
IBM ENHANCED			92221-U	£68
ASCII (101 KEY)			92222-U	£68
ANSI (105 KEY)			92223-U	£68

SCANNERS

HEWLETT PACKARD	Item No.	Price
SCANJET IIP AT	72481-U	£510
SCANJET IIP PS/2	72482-U	£510
SCANJET IICX AT	74496-U	£699
SCANJET IICX PS/2	74497-U	£699
SICOS COLOUR PAGE SCANNER – ISA	75165-U	£399

LOGITECH	Item No.	Price
SCANMAN EASYTOUCH	74056-U	†£189
SCANMAN 32 DOS/CATCHWORD	74438-U	†£62
SCANMAN 32 WIN/CATCHWORD	74439-U	†£87
SCANMAN PC COLOUR WIN	92797-U	†£276
SCANMAN 256 WIN	71064-U	†£112
SCANMAN 256 MCA	71065-U	†£202

MANUFACTURER'S WARRANTY DETAILS

† = Does not include On-Site Maintenance * = 1 Year On-Site Maintenance ** = 2 Year On-Site Maintenance

"We will match any confirmed price advertised in this magazine"

Computers by Post

For Contents See 1st page of this Ad

FEATURE PRODUCTS

Mail Order Leaders Since 1982

Alpha — Full featured Windows Presentation Graphics at Cut Down Prices

With **Bravo** you don't have to pay a lot for superior quality presentation software. Bravo has all the traditional features such as slide sorter, templates and outliner. Bravo also has the strongest set of drawing tools of any Windows presentation graphics package available. With Bravo even the most inexperienced users can create stunning slides, overheads, handouts, speakers notes and on-screen multimedia presentations.
Bravo needs 2MB RAM and 8MB hard disk space plus Windows 3.1

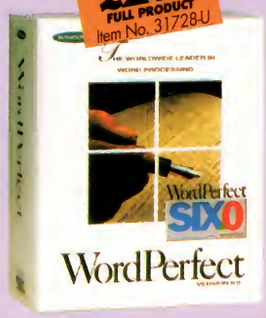
£49 Item No. 30459-U

WordPerfect

Buy the Best Wordprocessor for Windows - WordPerfect SIX.0 for Windows

NEW FEATURES INCLUDE:
- Full WYSIWYG editing
- Superior graphics handling
- Outstanding charting ability

NEVER EASIER OR MORE POWERFUL BUY IT NOW!



£214 FULL PRODUCT Item No. 31728-U

£79 Version Upgrade Voucher Item No. 31804-U

£97 Competitive Trade-Up Voucher Item No. 31805-U

Central Point Software

PC Tools for Windows

PC Tools for Windows Version 2.0 makes your Windows sessions more productive – and more secure.
- *Pre-crash warnings*
- *Performance boosters*
- *Productivity enhancers*
- *File management*
- *Disk analysis and repair*
- *Hard disk backup*
- *Virus protection*

£59 Item No. 33286-U

Borland — The Complete Fully Integrated Office Solution

NEW VERSION

Now including WordPerfect 6.0 for Windows, Paradox 4.5 for Windows and Quattro Pro 5 for Windows.

£326 BORLAND OFFICE Item No. 31929-U

Go for the NEW Mouse Feeling with the Colani Mouse

SICOS

£22.45 Sicos Colani Grey Item No. 75003-U

£22.45 Sicos Colani Black Item No. 75004-U

Perfect in form and function this new mouse has been designed by the world famous designer Luigi Colani. Sicos has sought to adapt the mouse to the shape and natural movements of the hand.

System Requirements: RS232 or mouse port, Microsoft or PC Mouse Systems compatible. Contains dual media diskettes and a mouse port adaptor.

All IBM compatible and system requirements as per the Colani Mouse.

NEW

928MOVIE from VideoLogic

The fastest, easiest way to accelerate Windows... and Multimedia too!!

- Incredibly fast – up to 6x faster Windows performance over ordinary VGAs
- Dramatically improves multimedia CD titles – postage stamp-sized video clips become high quality full screen movies
- Bigger screens, more colors – up to 1280x1024 resolution and up to 16.7 million colours
- CD-quality sound (optional) – 16-bit stereo audio runs Ad Lib and Sound Blaster games
- Easy to install – no jumpers or switches; just plug in, run installation software and go!
- Upgradable with VESA Media Channel – easy low cost upgrades for future multimedia needs
- All on one card!

Description	VRAM	BUS Type	Item No.	Price
928Movie	1MB	ISA	75009-U	£269
928Movie with Sound	1MB	ISA	75010-U	£359
928Movie	1MB	Local	75127-U	£269
928Movie with Sound	1MB	Local	75128-U	£359

Sales Lines Open
Mon–Fri 9.00am – 6.30pm
Sat 9.00am – 1.00pm

TEL (081) 982 6380
FAX (081) 982 6367

TELEPHONE ORDERS
All Charges Ex VAT per Order for the UK Mainland (For First 25Kgs)
DELIVERY CHARGES
UK Offshore & Other Delivery Options – Call For Details
FAX/POSTAL ORDERS

£6.50 PC's & Lasers
£4.95
£4.95 All Other Products
£3.95

Payment terms:
Cheque & Credit Card, Proformas immediately available upon request

Access · American Express · Visa · Switch

Full details of How To Order and our address are available on Software III at the end of this ad

All prices exclude delivery and VAT at 17.5%

"We will match any confirmed price advertised in this magazine"

FEATURES

Computers by Post

For Contents See 1st page of this Ad

SOFTWARE AND MICE

Mail Order Leaders Since 1982

Microsoft®

The most popular family of applications for Windows®

The latest versions of **Microsoft's** most popular programs –

Microsoft Office 4.2
Item No. *33091-U*
£336

Microsoft Office Professional 4.3
Item No. *33443-U*
£434

TRADE-UP

from old Microsoft® or competitive products. See right for details

PRICING

COMPLIANCE REQUIRED / OLD VERSION LOADED — Save time...	Compliance Check **Move from...** an earlier version of Microsoft Word, Excel, PowerPoint or Access	**Move from...** a competitor version of a word processor, spreadsheet or presentation graphics product on MS-DOS or MS-Windows
To... the Microsoft Office 4.2 for Windows for only:	Compliance Check **£199** Application Upgrade Item No. *33230-U*	**£299** Competitive Trade-Up Item No. *33275-U*
To... the Microsoft Office Professional 4.2 for Windows for only:	Compliance Check **£299** Application Upgrade Item No. *33231-U*	**£349** Competitive Trade-Up Item No. *33276-U*

ATTN: WINDOWS USERS
Eclipse Find – Finds any file in 3 seconds. An indispensable utility
Item No. 31831-U
£37.90

PC Defender from AMI
Complete virus protection through both software **AND** hardware tools (includes 8-bit ½ card and software)
£55.90
Item No. 33316-U

NEW
PackRat 5.0
The Power PIM is now available
MRP £295
Special Offer **£149**
Item No. 32286-U

ACCOUNTS-PERSONAL

QUICKEN V3.0 WIN	*33313-U*	£40
QUICKEN V6.0 DOS	*32142-U*	£35
QUICKEN BUSINESS PACK WINDOWS	*33339-U*	£55
QUICKINVOICE WINDOWS	*31663-U*	£29
MS MONEY V3.0	*33278-U*	£25

CAD

AUTOCAD LT WIN	*33213-U*	£369
AUTOSKETCH FOR WINDOWS V2	*33268-U*	£155
AUTOSKETCH V3	*32540-U*	£97
TURBOCAD WINDOWS	*31372-U*	£59
TURBOCAD PROFESSIONAL FOR WINDOWS	*31373-U*	£165

COMMUNICATIONS

CARBON COPY V2.0 WIN	*32270-U*	£85
CARBON COPY PLUS V6.1 DOS	*31004-U*	£75
PC ANYWHERE 5 DOS	*33343-U*	£87
PC ANYWHERE FOR WINDOWS V1	*32234-U*	£89
PROCOMM PLUS EC V2.0 DOS	*30412-U*	£55
PROCOMM PLUS EC V1.0 WIN	*30648-U*	£61
SMARTERM 320 V3.0	*32148-U*	£89
SMARTERM 340 WINDOWS V3.0	*33075-U*	£169
SMARTERM 420 WINDOWS V3.0	*31814-U*	£115
WINFAX PRO V3.0	*33389-U*	£57
HAYES SMARTCOM WINDOWS V1.0	*72528-U*	£45

COMBINATION/INTEGRATED

MS OFFICE V4.2	*33091-U*	£336
MS OFFICE V4.2 1 MLP	*33123-U*	£295
MS OFFICE V4.2 CCP UPGRADE	*33230-U*	▲£199
MS OFFICE PRO V4.3	*33443-U*	£434
MS OFFICE PRO V4.3 1MLP	*33444-U*	£364
MS OFFICE PRO V4.3 CCP UPGRADE	*33446-U*	▲£299
LDTUS SMARTSUITE R2.1 T/U VOUCHER	*33197-U*	£245
LOTUS SMARTSUITE R2.1	*33196-U*	£335
LOTUS SMARTSUITE R2.1 1 LLP	*31671-U*	£289
BORLAND OFFICE V2.0 (WP6) WIN	*31929-U*	£326
MS WORKS V3.0 DOS	*30827-U*	£84
MS WORKS V3.0 WIN	*31891-U*	£84
MS WORKS V3.0 WIN 1MLP	*33087-U*	£76
MS WORKS V3.0 WIN CCP UPGRADE	*31990-U*	▲£45

DTP

MS PUBLISHER FOR WINDOWS V2.0	*31070-U*	£66
PAGEMAKER 5.0 FOR WINDOWS	*32216-U*	£375
PAGEMAKER 5.0 WIN (5 PACK)	*33044-U*	£1,199
PRESSWORKS	*33053-U*	£69
COREL VENTURA V4.2 WIN	*33126-U*	£114

DATABASES

LOTUS APPROACH 2.1 WIN	*31722-U*	£89
MS ACCESS V2.0	*33359-U*	£227
MS ACCESS V2.0 1 MLP	*33360-U*	£202
MS ACCESS V2.0 CCP UPGRADE	*33360-U*	▲£199
DATAEASE V4.5.3 DOS	*32334-U*	£378
DATAEASE EXPRESS 1.1 FOR WINDOWS	*31086-U*	£249
DATAEASE SERVER ACCESS PACK (3 EXTRA USERS)	*31003-U*	£442
DBASE IV V2	*32199-U*	£329
DBASE IV V2 1 EXTRA USER	*32225-U*	£169
FILEMAKER PRO 2.0 WIN	*30878-U*	£199
MS FOXPRO V2.5 DOS	*32158-U*	£227
MS FOXPRO V2.5 DOS 1 MLP	*32157-U*	£202
MS FOXPRO V2.5 DOS DIST. KIT	*32350-U*	£227
MS FOXPRO V2.5 WIN	*32161-U*	£227
MS FOXPRO V2.5 WIN 1 MLP	*32160-U*	£202
MS FOXPRO V2.5 WIN DIST.KIT	*31262-U*	£227
PARADOX V4.5 DOS	*31923-U*	£335
PARADOX V4.5 DOS 1 EXTRA USER	*31925-U*	£169
PARADOX V4.5 FOR WINDOWS	*31922-U*	£89
PARADOX V4.5 WIN WORKGROUP ED	*31997-U*	£229
Q&A V4.0 WIN	*31890-U*	£118
Q&A V4.0 DOS	*32697-U*	£165

GRAPHICS

COREL DRAW V3.0	*30289-U*	£89
COREL DRAW V4.0	*32359-U*	£216
DESIGNWORKS 2	*33054-U*	£79
FREELANCE R2.01 WIN	*31811-U*	£274
FREELANCE R2.01 WIN 1LLP	*31856-U*	£229
HARVARD GRAPHICS V3.0 DOS	*32709-U*	£275
HARVARD GRAPHICS V2.0 WIN	*31667-U*	£209
MS APPLICATION UPGRADE VOUCHER	*31313-U*	£99
MS POWERPOINT V4.0	*33205-U*	£225
MS POWERPOINT 1 MLP	*30451-U*	£199
MOUSE TRACER FOR WIN	*33052-U*	£25
VISIO V2.0 WIN	*31991-U*	£139
W'PERFECT PRESENTATIONS V2.0 DOS	*30968-U*	£222
W'PERFECT PRESENTATIONS V2.0 WIN	*31705-U*	£179

LANGUAGES

BORLAND		
V3.0 TURBO C++ FOR DOS	*32398-U*	£47
C++ V4.0 WIN	*33129-U*	£199
PASCAL WITH OBJ & CD-ROM	*35004-U*	£198
TURBO PASCAL V7.0 FOR DOS	*32008-U*	£71
TURBO PASCAL FOR WIN V1.5	*30679-U*	£79
MICROSOFT		
QUICKBASIC V4.5	*30554-U*	£85
VISUAL BASIC V1.0 DOS	*31022-U*	£83
VISUAL BASIC V1.0 PRO DOS	*31023-U*	£195
VISUAL BASIC V3.0 WIN	*32355-U*	£80
VISUAL BASIC V3.0 PRO WIN	*32357-U*	£195
VISUAL C++ 1.0 STD WIN	*33127-U*	£65
VISUAL C++ 1.0 PRO WIN	*31898-U*	£195
SYMANTEC		
SYMANTEC C++V6.1DOS/WIN	*31899-U*	£66
SYMANTEC C++ V6.1PRO DOS/WIN	*31900-U*	£224

LEISURE

MS FLIGHT SIMULATOR 5 DOS	*31245-U*	£27
MS FLIGHT SIM 5 PARIS SCENERY	*31246-U*	£14
MS FLIGHT SIM 5 NEW YORK SCENERY	*31469-U*	£14

MICE & INPUT DEVICES

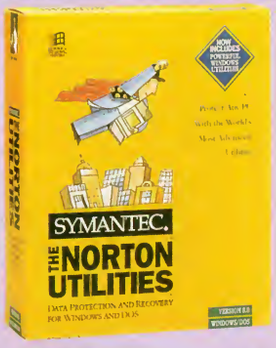
LOGITECH		
PILOT MOUSE II SERIAL	*94093-U*	£17
SERIAL PS/2 TRACKMAN	*91652-U*	£45
PORTABLE TRACKMAN	*94096-U*	£55
MOUSEMAN SERIAL	*94915-U*	£34
MICROSOFT		
SERIAL MOUSE 2.0	*72178-U*	£43
PS/2 MOUSE 2.0	*72179-U*	£43
SERIAL PS/2 MOUSE	*72180-U*	£48
SERIAL PS/2 MOUSE 5 PACK	*72181-U*	£215
BUS MOUSE 2.0	*72183-U*	£54
SERIAL PS/2 MOUSE + WIN 3.1	*91532-U*	£87
BALLPOINT MOUSE V2.0	*73874-U*	£69
SICOS		
COLANI MOUSE SERIAL LIGHT GREY	*75003-U*	£22.45
COLANI MOUSE SERIAL BLACK	*75004-U*	£22.45

PLEASE NOTE: 3½" DISKS ARE SUPPLIED AS STANDARD, 5¼" VERSIONS MUST BE REQUESTED ▲: Must have old version loaded.

Computers by Post

For Contents See 1st page of this Ad | **SOFTWARE II** | **Mail Order Leaders Since 1982**

SYMANTEC.



PUBLISHING PARTNERS OLE2

Combines the best Desktop Publishing and Draw Graphics/Illustration progams

Item No. 33318-U **£99**

New from GST, the pioneers of easy to use Desktop Publishing programs, comes the most sophisticated budget design package available on the market. Publishing Partners OLE2 features the widely acclaimed Pressworks and Designworks 2 programs fully integrated with OLE2 support, bringing you all the features you'll need to create great looking documents.

Calling all computer users!! Here's something you really need

The **Norton Utlities Version 8.0** provides everything you need to keep your entire computer system running reliably at peak performance. New Windows configuration management and background Windows Speed Disk and Disk Doctor make the Norton Utilities the only comprehensive solution for advanced data recovery, protection, and diagonostics for any PC.

£87

Item No. 33321-U

BODYWORKS 3.0 CD-ROM

Item No. 30124-U CD-ROM **£39**

Item No. 33165-U 3½" **£39**

The human body is the ultimate machine, and now you can explore the body's systems, structures and functions in detail with BodyWorks 3.0 CD-ROM. Colourful, comprehensive 3-D computer graphics guide you on a journey through the body. With it's vast database, BodyWorks 3.0 CD-ROM lets you study specific areas from head to toe, down to the most elaborate cell level detail. State of the art animations bring the intricate functions of the body to life with 3-D rotations of the body, full motion video and much, much more. Also available on 3.5" floppy disk.

MULTIMEDIA/CD ROM

GOLD DISK (3½" SOFTWARE)		
ASTOUND FOR WINDOWS	34001-U	£79
VIDEO DIRECTOR	34000-U	£79
CD ROMS (MPC COMPATIBLE)		
MICROSOFT		
MS CINEMANIA 94	33156-U	£35
MS DINOSAURS	31252-U	£32
MS ENCARTA ENCYCLOPEDIA	31250-U	£62
MS MULTIMEDIA BEETHOVEN	31249-U	£32
MS MUSICAL INSTRUMENTS	31251-U	£32
BATTLE CHESS	32050-U	£32
GROLIER MULTIMEDIA ENCYCLOPEDIA	33238-U	£195
GUINESS DISC OF RECORDS	30365-U	£48
COREL		
MOUNTAINS OF AMERICA	33237-U	£32
PORSCHE RACING	33236-U	£32
SAILBOATS	33235-U	£32

OCR/IMAGE PROCESSING

OMNIPAGE DIRECT WIN	30633-U	£178
OMNIPAGE PRO 5 WIN	33338-U	£434

OPERATING SYSTEMS

MSDOS 6.2 UPGRADE	31867-U	£38
MSDOS 6.2 UPGRADE + FLIGHT SIM 5	31866-U	£54
MSDOS 6.2 UPGRADE 1 MLP	31893-U	£38
MS WINDOWS 3.1	30054-U	£66
MS WINDOWS 3.1 1 MLP	30473-U	£56
MS WINDOWS 3.1 20 MLP	30474-U	£984
MS WINDOWS 2.X TO 3.1 UPGRADE	30205-U	£39
MS WINDOWS NT	31384-U	£235

PEER-TO-PEER

MS WFWG V3.11 - 3½"	31871-U	£89
MS WFWG V3.11 1 MLP	33135-U	£62
MS WFWG V3.11 20 MLP	33136-U	£899
WORKGROUP ADD-ON FOR WINDOWS V3.1 - 3½" (CCP VERSION)	31872-U	▲£49
WORKGROUP ADD-ON FOR DOS - 3½"	31875-U	£49
NOVELL PERSONAL NETWARE 1.0 SINGLE USER - 3½"	31994-U	£45
NOVELL PERSONAL NETWARE 1.0 FIVE USER - DUAL	31995-U	£359

PROJECT MANAGEMENT

ABC FLOWCHARTER V2.0 WIN	30637-U	£219
ON-TARGET	32756-U	£65
MS PROJECT V4.0 WINDOWS	33362-U	£287
MS PROJECT V4.0 WINDOWS 1 MLP	33363-U	£244
MS PROJECT V4.0 WINDOWS CCP UPGRADE	33366-U	▲£129
MS APPLICATION VOUCHER U/G	31313-U	£99
ORGPLUS FOR WINDOWS	32219-U	£85

ROUTE FINDERS

AUTOROUTE EXPRESS WIN V3.0	31931-U	£76
AUTOROUTE EXPRESS DOS V3.0	31932-U	£54
AUTOROUTE PLUS V6.0	32243-U	£239

SPREADSHEETS

BORLAND QUATTRO PRO 5 WIN STD	31328-U	£39.95
BORLAND QUATTRO PRO 5 WIN WKPG	32387-U	£199
BORLAND QUATTRO PRO 5 DOS	31353-U	£42
MS APPLICATION VOUCHER U/G	31313-U	£99
MS EXCEL V5.0	31886-U	£227
MS EXCEL V5.0 1 MLP	31887-U	£202
MS EXCEL V5.0 CCP UPGRADE	33232-U	▲£89
LOTUS APPLICATION VOUCHER U/G	32345-U	£99
LOTUS 123 R4.01 WIN	31739-U	£237
LOTUS 123 R4.01 WIN 1 LLP	31926-U	£206
LOTUS 123 R3.4 DOS	30975-U	£298
LOTUS 123 R3.4 DOS 1 LLP	32026-U	£256
LOTUS 123 R2.4 DOS	30182-U	£248
LOTUS 123 R2.4 DOS 1 LLP	72354-U	£212
SUPERCALC 5.5 DOS	30420-U	£62
SUPERCALC 5.5 LAN (3 EXTRA USERS)	30360-U	£172
SUPERCALC V1.0 WIN	33208-U	£66

UTILITIES

CHECK IT PRO VOLS I&II	31026-U	£62
DR SOLOMONS ANTIVIRUS DOS (1/4LY)	32730-U	£62
DR SOLOMONS ANTIVIRUS WIN (1/4LY)	30657-U	£73
LAPLINK PRO 5	32209-U	£75
LOTUS ORGANIZER V1.1	31668-U	£44
NORTON ANTIVIRUS V3.0	31838-U	£92
NORTON DESKTOP FOR WINDOWS V3.0	33210-U	£90
NORTON UTILITIES V8.0	33321-U	£87
PC TOOLS PRO DOS	31934-U	£79
PC TOOLS 2 FOR WINDOWS	33286-U	£59
QEMM 386 V7.03	33292-U	£47
STACKER V4.0 WIN/DOS	33287-U	£68
XTREE GOLD V3.0	31725-U	£67
XTREE FOR WINDOWS	31854-U	£49

WORDPROCESSING

LOTUS APPLICATION VOUCHER U/G	32345-U	£99
AMI PRO R3.01	31810-U	£248
LETTERPERFECT	32485-U	£29.95
MS APPLICATION VOUCHER U/G	31313-U	£99
MS WORD FOR WIN V6.0 CCP UPGRADE	33233-U	▲£99
MS WORD FOR WIN V6.0	31771-U	£227
MS WORD FOR WIN V6.0 1 MLP	31857-U	£202
MS WORD FOR PC V6.0	31008-U	£182
MS WORD FOR PC V6.0 DOS 1 MLP	31659-U	£162
WORDPERFECT SIX.0 DOS	31937-U	£212
WORDPERFECT SIX.0 DOS 1 ADD LIC.	31057-U	£175
WORDPERFECT SIX.0 DOS 5 ADD LIC.	31058-U	£799
WORDPERFECT SIX.0 WIN	31728-U	£212
WORDPERFECT SIX.0 WIN 1 ADD LIC.	31952-U	£175
WORDPERFECT SIX.0 WIN 5 ADD LIC.	31953-U	£799

CALL FOR DETAILS ON LARGER LICENCE PACKS
MLP = MICROSOFT LICENCE PACK
LLP = LOTUS LICENCE PACK
(FOR EXTRA USERS NO DISKS OR DOCUMENTATION)
WORDPERFECT LICENCES
ADD = ADDITIONAL USER LICENCE
W.O.D = WINDOWS (V5.2), OS/2, DOS V5.1
(FOR EXTRA USERS NO DISKS OR DOCUMENTATION)

Sales Lines Open
Mon-Fri 9.00am - 6.30pm
Sat 9.00am - 1.00pm

Payment terms:
Cheque & Credit Card, Proformas immediately available upon request

Access | AMERICAN EXPRESS | VISA | SWITCH

Computers by Post (PCH), 5th Floor, Alperton House, Wembley, Middx. HA0 1EH

TELEPHONE ORDERS
All Charges Ex VAT per Order for the UK Mainland (For First 25Kgs)

Delivery Charges
UK Offshore & Other Delivery Options – Call For Details

FAX/POSTAL ORDERS

£6.50 PC's & Lasers	£4.95 All Other Products
£4.95	£3.95

TEL (081) 982 6380
FAX (081) 982 6367

Subject to availability despatch is normally effected within **TWO** days from receipt of cleared payment. Please allow **SEVEN** working days for cheque clearance. All orders will be fulfilled within **28** days unless otherwise notified *(Credit cards charged only after goods are ready for despatch)*

All prices exclude delivery and VAT at 17.5%

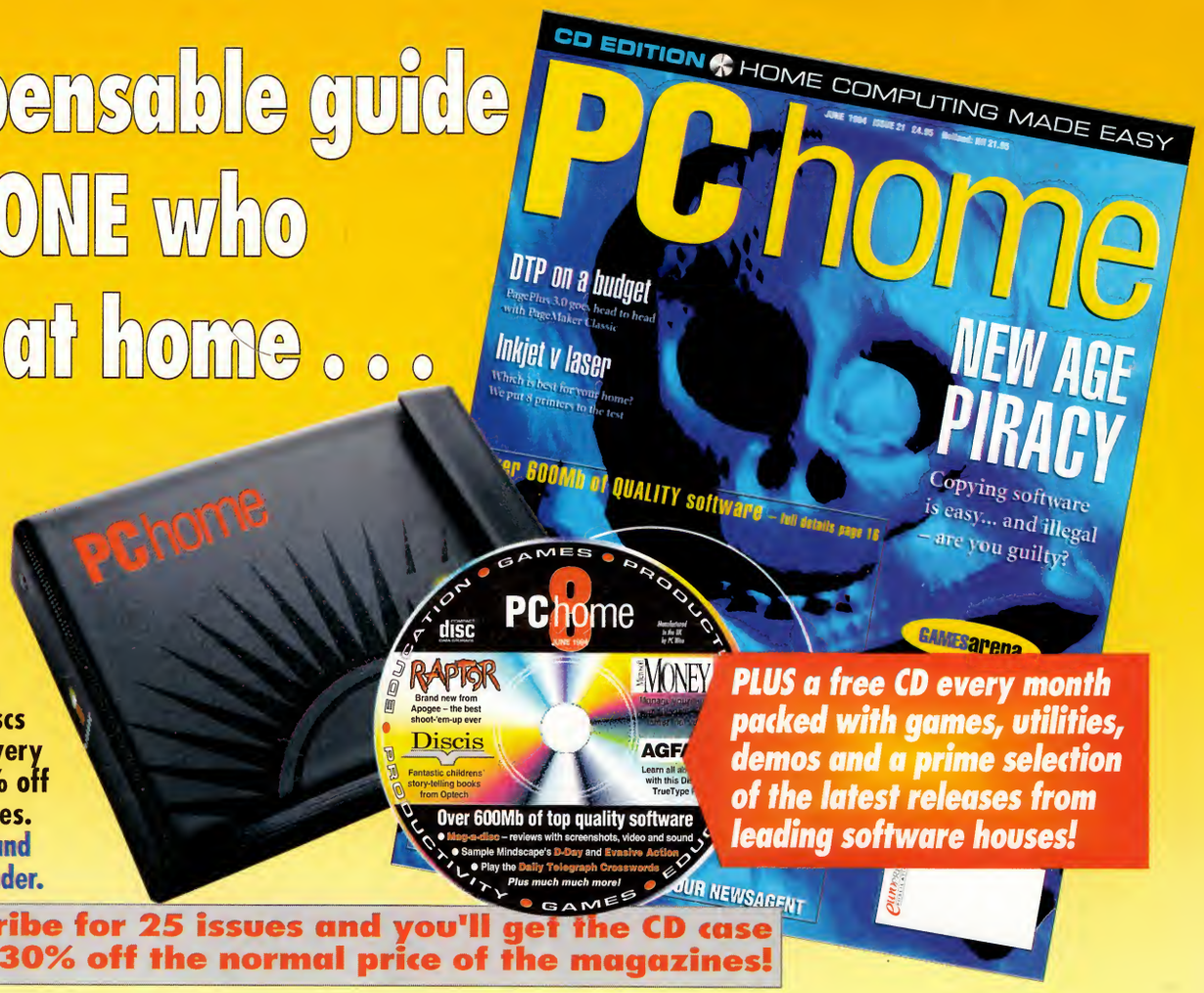
All prices and manufacturer's specifications are subject to change without notice. Please check suitability with the manufacturers before ordering. Goods are not offered on a trial basis. Goods are offered for sale subject to our standard conditions of sale available on request. E. & O.E.

HOW TO ORDER

1. Identifiy the products you need and their item code (e.g. 05050-5).
2. Call us on **(081) 982 6380** or Fax us on **(081) 982 6367**. Or post your order to the Address left.
3. Include your credit/charge card details (No. and expiry date) or cheque with your order.
4. Add delivery and VAT to the total at the current rate, to your order.
5. If you are an existing customer please quote your customer number

"We will match any confirmed price advertised in this magazine" **SOFTWARE II**

The indispensable guide for EVERYONE who uses a PC at home . . .



Receive a CD Disease when you subscribe

Subscribe for 12 issues of the CD edition of PC Home and you will also receive this stylish CD case holding up to 12 CDs – an ideal portable library for the discs that come with the magazine every month. We'll also give you 10% off the normal price of the magazines. Or subscribe to the HD edition and receive 3 extra issues and a binder.

PLUS a free CD every month packed with games, utilities, demos and a prime selection of the latest releases from leading software houses!

PLUS Subscribe for 25 issues and you'll get the CD case plus 30% off the normal price of the magazines!

Offers only apply to UK subscribers

DON'T MISS OUT!

Month after month PC Home helps you develop your skills, find enjoyment and discover the benefits of exploring the limits of Home Computing. Regular features include:

- **Home Office:** Keep abreast of the latest software and hardware essential for people working at home.
- **Education:** All about the wealth of edutainment and educational software for children and mature students.
- **Games:** An up-to-the-minute guide to the vast range of leisure software now available for the PC.
- **Hints and tips:** PC Home helps you overcome all the problems you may experience with your PC.

Subscribe by Quarterly Direct Debit – and you'll save 25% off the normal cover price

** only applies to UK residents. Does not include Disease.*

PRIORITY ORDER FORM

SUBSCRIPTION CHOICE

I wish to take out a subscription for the CD edition of PC HOME

	UK	Europe/Eire	Overseas
12 issues	☐ £54 (1808)	☐ £79 (1809)	☐ £90 (1810)
25 issues	☐ £86 (1811)	☐ £136 (1812)	☐ £161 (1813)

HD edition of PC HOME

	UK	Europe/Eire	Overseas
13 issues	☐ £39.50* (1814)	☐ £65.50 (1815)	☐ £78.50 (1816)

* FREE BINDER (Not Disease)

For payment by credit card

☐ Please debit my credit card ☐☐☐☐ ☐☐☐☐ ☐☐☐☐ ☐☐☐☐

For payment by cheque

☐ Cheque enclosed made payable to Europress Direct. Exp. date: /

For payment by Direct Debit

☐ Quarterly Direct Debit - £11.85- – CD Edition (1805)

Complete bank details (see panel on right)

☐ Quarterly Direct Debit - £8.85- – HD Edition (1806)

Signature: .....

☐ *Please tick this box if you do not wish to receive information on the latest technological releases*

Please mail my magazine to:

Name: .....

Address: .....

.....

.....

.....Postcode.....

Tel: .....

You can also take out a subscription by ringing our 24 hour hotline

051 357 1275
or Fax - 051 357 2813

Please send the whole of this coupon to : Europress Direct, PO Box 2, Ellesmere Port L65 3EA

THE EASY WAY TO PAY

Authority to your Bank/Building Society to pay Direct Debits

Name of Bank/Building Society: .....

.....

Address: .....

.....

.....

.....

Postcode: .....

Name of Account: .....

Your Account no. .....

Sort Code: .....

Signature(s) .....

.....

Date: .....

FOR OFFICE USE ONLY

Originator's Identification No. 8 5 1 4 1 2

Ref. No: .....

Your instructions to the Bank/Building Society.

* I instruct you to pay Direct Debits from my account at the request of Europress Ltd.

* The amounts are variable and may be debited on various dates.

* I understand that Europress may change the amounts and dates only after giving me prior notice.

* I will inform the bank/building society in writing if I wish to cancel this instruction.

* I understand that if any Direct Debit is paid which breaks the terms of the instruction, the Bank/Building Society will make a refund.

Bank/ Building Society may decline to accept instructions to pay Direct Debit from some types of accounts.

EDUCATION MATTERS

Wilf Rees, our new education correspondent, sets the scene for the first part of an in-depth educational software review explaining the finer points of National Curriculum packages

FREDDY Kruger would have nightmares if he was confronted with the deluge of National Curriculum documents rained upon the teaching profession over the last few years.

The jargon permeating these documents is legend, and the interpretation, both confusing and frustrating.

Hopefully, I'm going to remedy that, offering the layperson's guide to understanding the legislation and the examples of software I would recommend to reinforce learning at each of the age groups.

Twenty years of using IT to teach age ranges from 3 to 70 have afforded me the opportunity to watch the development of hardware and software applications in education, and the subsequent mushrooming of interest from students and parents alike.

There has always been, of course, this strange anomaly, that in the early days of IT finding its way into educational establishments, Acorn established a stranglehold with their BBC models.

Smooth transition

THIS was totally contrary to the outside world's alternative PC-based development, and while the Acorn range of computers is both innovative and technically advanced, it has served little to enable the smooth transition from learner to earner.

Fortunately, this trend is rapidly changing as more and more colleges and schools are installing PC networks and the quality and variety of educational software develops.

Align the growth of home ownership of PCs with the aforementioned trend in education, and we have the ideal recipe for genuine transfer of information and skills between home and study place.

It's not uncommon to see students carrying portables into the classroom, and happily taking notes and preparing assignments. Alternatively, out will come the student's disk box at the end of a session, and the lesson's work is dumped on to floppy, for extended studies on the home machine.

To clarify the tediously boring, but necessary to understand bit, all our kids start school at five, and compulsorily attend until 16. These years at school have been divided up into four stages, effectively labelled Key Stage One to Four.

Every subject studied at school has Attainment Targets, which describe the understanding, knowledge and skills acquired in each subject. These ATs, as they are known, each have 10 levels of attainment, which effectively describe the standards achievable in each AT.

So, when for example, you read on the back of the box of Adi Junior Reading 4/5 from Europress Software, that it covers ATs 1 to 4, Levels 1 and 2, what this in fact means is that it addresses AT1 – Speaking and Listening, AT2 – Reading, AT3 – Writing and AT4 – Spelling, up to levels 1 and 2.

These four Attainment Targets or main areas of understanding, knowledge and skills are those which are identified in the National Curriculum English requirements.

The levels described as 1 and 2 are competencies in each of the ascribed ATs. Level 1 is the lowest level of competence, up to level 10 which is the highest.

Suffice to say that it took something like four discussion documents and three renewable forests to convey that information to teachers and parents. I don't think I've gone for overkill.

What is important, is that if you are looking for software to assist your own or your children's learning, you should look on the box to see if it really does address specific educational criteria, rather than some glib statement such as *Supports National Curriculum.*

There are other issues which you will have to confront before parting with your money. Sadly the bulk of good software is American in origin, and the combination of some Mid-Atlantic drawl combined with incompatibility in our two educational systems, might prove too annoying, but don't be put off, some of it is excellent.

Educational software should be:

- **E**asy to install and use – manuals should be virtually unnecessary
- **D**edicated to specific areas or subjects, with explicit objectives in mind
- **U**nbiased and moral, engendering non-discriminatory values
- **C**heap enough for parents and students to buy for themselves
- **A**ccurate and entertaining, to ensure attention holding
- **T**horough in its conveying of a subject or principle
- **I**ntuitive, allowing testing, measuring monitoring and reporting of performance
- **O**bjective, reinforcing accumulative learning patterns
- **N**ational Curriculum dedicated, with Key Stages and levels identified

"...out will come the student's disk box at the end of a session, and the lesson's work is dumped on to floppy"

Conversely, recent years has seen the emergence of some first-class products from this side of the Atlantic and we will be looking at all those later.

Other issues, such as parental entitlement, mandatory teaching of IT, and whole school IT policy, I will touch on as we journey through the minefield.

But we would also like to see part of this column grow into a forum, where your questions, suggestions and observations can be aired for *PC HOME* readers to share.

So if I provoke a disagreement, initiate a successful purchase or you are just desperate to see your name in print, write to me at the usual *PC HOME* address.

This month, starting over the page, I look at products for Key Stage 1 and 2, which cover the age range from preschool to 11.

In subsequent months we will look at Key Stage 3 which covers 12 to 14, and then Key Stage 4 and onwards to post 16.

● *Wilf Rees is an Assistant Head at a high School in Northumberland, with specific responsibility for Creative Arts, covering Technology, CDT, Art, Music, Home Economics, P.E. and Drama.*

He has worked as a consultant for various software houses and runs in-service courses for education authorities on IT. Wilf also finds time to write for the Times Educational Supplement on various educational issues. PCH

PARENTAL GUIDANCE

In the first instalment of a three-part series, Wilf Rees takes a look at some of the best education and edutainment software available for the PC. This month, from cradle to 11 years old

Fun School 4, 7 to 11 from Europress Software , showing the menu screen allowing access to the different games available

IT'S remarkable, when I look back to the early attempts at creating software to assist learning, and see how far we have come in such a short time. The factors responsible are a combination of many changes.

Technical innovation has enabled the hardware to produce much more sophisticated images, smoother animations and greater speed.

Mass production and greater spending power has brought sophisticated equipment easily within the reach of many a home, and the growing awareness of a public to the capabilities, necessities and resources available on a computer, has served to fuel an explosion of consumer demand for solutions to every conceivable need.

Align that growth with the obvious presence of children and adults in the home, involved in any form of learning, and we have the inevitable market for dedicated software to assist this huge growth area.

I am constantly asked to recommend packages for all manner of learning situations, be it youngsters beginning school and the parents wanting to provide their child with as much advantage as they can, to retired adults who attend my evening classes, and have just become hooked by the IT explosion, and want to learn more.

It's fascinating to reflect on the comparative response of both these customers. Children and senior citizens alike, marvel at the latest wizardry, become bored at the repetitively indifferent and are completely absorbed by the innovative, informative and ingenious. Only three subjects are mandatory in the curriculum: Maths, Science and English, and these are described as The Core. Not surprisingly, the bulk of software falls into categories directly related to these subjects. As far as early learning software is concerned, by far the most emphasis is placed on the old fashioned development of the three Rs. Science software is thin on the ground.

There is, of course, no replacement for actually spending time with young children, and developing language, numeracy and literacy, through direct communication and sharing time together.

What good educational software does with young children, is to enhance this process through amusing and captivating experiences. The best of the software adds additional challenges of logic, perception and reasoning, simultaneously reinforcing the learning process by checking for accuracy, and either returning later to confirm, or offering additional attempts to get it right.

There is often some form of reward system, to acknowledge achievement, such as stars, high scores, or even printable certificates.

What I want to offer is my own recommendations of the packages you might consider, to assist your children in this process. I am by no means looking at every product available, but rather, at those which I know to have established themselves as market forces, as well as one or two new offerings, bent on grabbing the limelight.

STABLE COMPANIONS

EUROPRESS Software are part of the group who publish this magazine – although a separate company. As an out-of-house writer, I am in the privileged position of being frank about opinions.

The software division of Europress have made a huge contribution to the education market in recent years, and many of the products are both impressive and relevant to the age category we are looking at.

To begin with, the Fun School series offers budget-priced packages to cover three age bands – under 5s, 5 to 7 and 7 to 11-year-olds. We are now at version 4 of the series, and each revision has seen improvements and additions to the range of programs.

"It pays particular attention to National Curriculum"

All the packages contain six different games, each with three levels of difficulty. There is a character to lead each level, and for the under 5s it is, of course, Teddy.

I especially like the way in which the parent is instructed to read out sections of the manual before each of the six games in order to provide the child with guidance on either the gameplay or the level.

The 5 to 7 package uses a grinning frog to accompany progress through the games, and again sections are read out from the manual to assist understanding. The 7 to 11 Fun School employs a *spy* named Sammy – codename Q – and his mission is to trace the stolen riches of King Raram.

The Fun School suite is a very well written and represents excellent value for money. It pays particular attention to National Curriculum, and even includes information in the manual as to which areas it addresses.

Within the range of games in the suite are ample opportunities for children to explore number, reading skills, deductive exercises, logic puzzles, time concepts, typing skills, money handling, geography, history and colour.

I think the 7 to 11 is the strongest of the suite but that's probably because I struggled with some of the answers! Overall, these packages offer best value in the budget range when it comes to actually gaining educational effectiveness. Less emphasis is placed upon excessive entertainment at the expense of learning content. Look out for Fun School 5 to be released in the autumn.

Customer feedback was responsible for Europress offering two specials in the Fun School range. These are Fun School Maths 7 to 11 and Fun School Spelling 7 to adult.

Both follow the titles into more specific subject based issues than the general Fun School series, offering very relevant skill development in these two key curriculum areas.

In addition, a Fun School Paint & Create package provides support for developing keyboard skills, musical composition, graphic design and jigsaw puzzling.

Both of the special range are more visually and aurally entertaining, as well as probing deeper into the respec-

Fun School Spelling is one of the *specials* introduced to address specific learning areas. This section is aimed at improving understanding of prefixes and suffixes, by adding the appropriate choice

Putt Putt goes to the Moon from Electronic Arts demands fairly complex logic skills. One of the requirements is to collect objects to help Putt Putt rebuild the Moon rocket to get home

Earning all of the money and collecting the necessary gear to join the parade, Putt Putt needs to visit the toy shop. Chaos breaks out as all manner of animations and sounds are activated by pointing and clicking

NEW KID IN TOWN

tive subjects. Upmarket, Europress have several offerings worthy of note to tempt your wallet. A rather amusing and endearing alien by the name of ADI enters the scene with four packages: Counting 4/5 and 6/7 and Reading 4/5 and 6/7.

Labelled under the ADI Junior range, they fall more under the *edutainment* banner. Each package uses an initial interface, described by Europress as the *ADI Junior Environment* which contains a collection of amusing animations.

All the ADI Junior packages begin with this screen, labelled the Environment. From here, access to lots of activities is promoted by clicking on objects

Several of the animations are significant, in that they lead into subsequent activities related to the animation. These packages are similar in appearance and procedure to the Electronic Arts packages, except that the activities exist as standalone events rather than being integrated into a story.

All are well documented, with very clear on-screen guidance for selecting help, levels and movement around the packages. The biggest annoyance – understandable but still infuriating – is the protection which requires reference to a coded booklet each time the program is loaded.

They are however, very well written, and will provide hours of fun as well as learning experiences – but in that order.

Finally, Europress recently introduced two standalone packages to extend their range. Grouped under the umbrella title of World Class Collection, Mutanoid Maths Challenge, Mutanoid Word Challenge and Storybook Weaver are American imports.

We reviewed the former in the April 94 issue of *PC HOME*. Its stablemate – the Word Challenge – is essentially a word puzzle, arcade style game. It has some educational value as a vocabulary and spelling development tool but, other than that, I found it as exciting as Denise O'Connell found Maths Challenge, which was only two stars.

Storybook Weaver is a much better offering altogether, and this we also reviewed in February. It is an open ended writing aid, allowing creation of stories supported by images and sounds. A much better option of the two.

ELECTRONIC Arts have recently moved into the education market, with several titles aimed at our first category. We took a look at these last issue, but as this feature is designed to be a definitive guide, it would be unfair to exclude them.

Putt Putt joins the Parade, Putt Putt goes to the Moon and Putt Putt's Fun Pack all share a common marketing policy, in that each package not only contains the software and manuals, but also supportive work books containing a variety of colouring, word search, crossword, maze and counting exercises.

In addition, colouring crayons, pencils, sharpeners and badges are also included, all packaged in presentable plastic folding wallets. Nice touch – not original, but thoughtful.

The Fun Pack is the cheapest of the suite of packages and is essentially a compendium of six games, each with four levels of difficulty.

A master menu allows selection of the desired game, and mouse selection accesses the choice.

All the games feature Putt Putt – an animated purple convertible – who, despite his trans-Atlantic accent divulging the suite's origin, is very endearing and amusing.

At the poorer end of the compendium is a tic-tac-toe or noughts and crosses game, which is impossible to beat at level four. At the other end is an animated draughts game, which is forgiving at the first two levels, but gets tougher at the last two.

In between are a spelling game requiring selection of letters from a displayed alphabet to match a visual image, a visual circus jig-saw, a memory tile turning game, and a pin-ball machine creator. All of this is crunched on to one disk and is supported by sound and continuous animations.

The two other Putt Putt packages are in a different league, each unpacking to about 14Mb of hard disk space and brimming with superb sound and animated sequences. Both share the same *adventure style* format in that the user needs to travel around collecting various objects in order to complete the game.

Everywhere, there are animated events, triggered by simply pointing and clicking. Most are just simply for amusement, and that they certainly are, but some animations need to be activated to further the game, and these need to be found.

In both packages, logic and reasoning need to be used to solve the game, and unless guided by an adult, a child might either struggle or give up.

However, I have a criticism of all of these types of package. While visually and aurally stunning, they are essentially linear, and once the game is solved, their usefulness is questionable.

Additionally, the proportion of data available in these packages dedicated to sound and animations, as opposed to actual educational tasks, is misplaced, and the subsequent educational experience questionable.

Couple that with a nauseatingly nice polite American child's voice as Putt Putt, provoking unnecessarily nationalistic reactions, and I ended up with distinct reservations about the usefulness of either title.

I loaned both of them to a very bright 7-year-old. His father, a maths teacher with extensive computer skills, reported that his son was totally absorbed by them, but that he cracked each in just under two hours. That's £15 an hour of entertainment!

PARENTAL GUIDANCE

One of the options in Henrietta's Book of Spells, requiring the solving of an anagram. As the anagrams are completed, Henrietta slowly pulls the chest over to her side of the castle

Count And Add is aimed at under 6s. This is the menu screen showing options available. I particularly like the ability of the parent to change many of the parameters within the package, to adjust the content to the individual child

SCOTLAND'S BACK FOUR

LANDER Software, up in Glasgow, have four titles worthy of mention in any debate on educational software. All labelled under The Gold Series, the first to mention is Henrietta's Book of Spells.

Personally, I think Lander have the best combination of entertainment allied with education, and Henrietta's Book of Spells demonstrates this admirably.

Designed to improve spelling, vocabulary and language skills, the program has the advantage of allowing direct input into the database of questions, thus offering an inexhaustible supply of possible outcomes. Input can be in any one of five European languages, including accents, suggesting obvious applications for the teaching of second languages.

Additionally, access to the difficulty levels and times allowed further extends the life of the package. There are five sections within Henrietta Book of Spells – a word recognition and memory game, a complete the missing vowels task, a code breaking game, a version of hangman and an anagram puzzle.

Hooray for Henrietta is a sister package, reviewed in the January 93 issue of *PC HOME*. Targeted at improving number skills, it has four main game screens and eight levels of difficulty.

Again there is an almost infinite possibility of questions, this time generated by the computer. As with the sister package, a teacher/parent section allows access to setting levels and viewing and printing the results.

Graphics, sound and animations are all up to the standard of other similarly priced products, and the documentation is particularly good, with a large section dedicated to advising on hints and educational advice, as well as clear identification as to the areas of National Curriculum covered.

Two other packages from Lander worthy of note are Spellbound, and Count and Add.

Spellbound is a super helicopter-cum-submarine flying game, in which the object is to shoot up assorted creatures and collect letters in the correct order, to spell a given word. Subsequent levels increase difficulty, and it is all rather compelling. Spellbound is available on CD-Rom as well as disk.

Count and Add is a First Maths package which allows changes by the parent or teacher, to adjust the complexity of the gameplay. Five different games add to the value of this ideal starter pack.

DEAR OLD NODDY

RETURNING to our own side of the Atlantic, The Jumping Bean Company offer two packages suitable for children from three years upwards. Noddy's Playtime and Noddy's Big Adventure are both well structured and packed full of activities.

The former has been available for some time on the PC, but the latter is set for imminent launch, having been available for the Commodore Amiga for a few months.

Both packages have a similar format, utilising a driving game as a front end interface, with access to the various additional games, activated by driving Noddy in his car, to any of the car parks around the Toy Town roads. Each comes with a map of the Toy Town road system.

The arrow keys steer the car about the town. A nice touch is the ability to activate certain events, such as tooting the taxi's horn, revving the engine, screeching the brakes or waving Noddy's arm, simply by pressing specific keys.

Once into the secondary menu, three levels of difficulty are provided, and access to the additional games is available.

The former package offers eight different activities, including a junior paint package, a musical keyboard, a maze, a number and counting activity, two shape matching games, and what I think is the best activity, a memory challenge.

All these activities are linked by the Enid Blyton characters and locations, and are supported with excellent sounds and documentation.

The latter package is the better of the two, with much the same format, but more activities – 13 in all – and what really is the jewel in the crown – a children's wordprocessor. This alone justifies buying the product.

Noddy's Big Adventure is, without doubt, my favourite kid's package. I spent twice as much time playing with it as any other and my reversion to childhood was only prevented by complaints from the household suggesting 3am was a little late to be driving taxis.

Noddy has parked his taxi in the garage and is searching for objects. A scrolling screen reveals superb animations and sounds

A common starting game for both Noddy packages, but each with a different road pattern. Steer the car with the arrow keys, toot the horn, wave at pedestrians, rev the engine or just drive to a taxi rank to enter the different puzzles

Adventures in Fairyland is superb package, full of interactive capabilities. The child can freeze each image and then colour the picture, or move into puzzles at different points

REFRESHING

SCOPS are a very refreshing and innovate company who have entered the market with several edutainment packages aimed directly at the age group we are looking at. In the February issue we reviewed what I think are the two best packages Scops offer.

Adventures in Fairyland is an interactive collection of well-known fairy stories, available on both disk and CD-Rom. At each stage of the journey around the stories, the screen can become puzzles, colouring exercises or language development tasks.

Upside Down Town is huge adventure puzzle which sees Pete set out to free the imprisoned wizard, and hence destroy the wicked witch.

Setting demanding logic and thinking tasks, this is an entertaining package but suffers from the same linear, life expectancy as the Put Putt adventures from Electronic Arts.

More towards the budget end, four new titles offer an assortment of challenging exercises and puzzles. Rainbow Rascal is a graphics program which allows colouring and text addition to existing images, or creation from scratch of illustrations. Over 100 clip art images can be combined to create very sophisticated pictures, and the added sound effects are most amusing.

Reading Adventures in Wordland is a combination of language development and visiospatial awareness. Together with the Mind Games and Creativity Centre, these three packages form the Ozzie collection and are mutually linked by a mischievous but friendly little green gremlin.

In Reading Adventures in Wordland a collection of puzzles with assorted difficulty levels is used to reinforce shape memory and spelling. Sound is used to assist pronunciation.

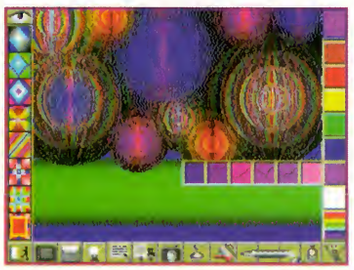
Five different activities are combined in my favourite program in the suite, Creativity Centre. A host of assorted memory and visual tests are combined to challenge even the brightest of children, and the facility for adding new activities and printing out are excellent.

My favourite element in this package is the fill-the-missing-spaces game, where a collection of geometric shapes need to be orientated and placed on a screen to complete a mosaic.

Last in this suite of thinking skills programs, is Mind Games. It is intended to extend memory and visual awareness, through the vehicle of knowledge of countries and peoples of the world.

Mind Games is an excellent piece of software and fulfils both ascribed intentions superbly.

Mind Games is a journey around the world, looking at costume, flags, native images, famous landmarks and architecture



Rainbow Rascal, has extensive features for colouring, drawing and manipulating images.

Contact

Electronic Arts	0753 549442
Europress Software	0625 859333
Jumping Bean	0602790838
Lander Software	041-357 5034
Scops Software	0252 722223

At the end of the day ...

DECIDING which packages you might want to buy is really down to how much you want to spend and which specific areas of learning you feel need support. I have not covered every piece of software available but, rather, have touched on those I know and are worthy of further investigation.

I have received beta test versions of new products, even as I write this article, and among them are a couple of gems, but they will have to wait. Furthermore, there are some very capable packages on the PD market, but space limits me looking at these.

However, I am hoping to pull all the loose ends together in the last of the series of round-ups. As a rule of thumb, most of the packages reviewed are worth buying, but pay attention to the ratings we have given as a guide to making a decision.

Rest assured, that if any innovative and exciting new software arrives on the education scene, *PC HOME* will be first to let you have our honest and unbiased opinions.

● *That's all folks, until next month when we move on to the next age group, leading up to GCSE.* PCH

Products at a glance (All scores out of 6)

Title	Subject	Age	Key stage	Levels	Value	Docs	Presentation	Verdict	Supplier	Price (£)
Putt Putt goes to the Moon	General	3/8	1/2	No	2	3	6	3	EA	34.99
Putt Putt Joins the Parade	General	3/7	1/2	No	2	3	6	3	EA	29.99
Putt Putt's Fun Pack	General	3/8	1/2	No	3	4	4	4	EA	29.99
Noddy's Playtime	General	3+	1/2/3	Yes	5	6	5	5	JB	29.99
Noddy's Big Adventure	General	3+	1/2/3	Yes	6	6	6	6	JB	34.99
Fun School 4 under 5	General	>5	1	Yes	5	5	4	5	ES	24.99
Fun School 4 5 to 7	General	5/7	1	Yes	5	5	4	5	ES	24.99
Fun School 4 7 to 11	General	7/11	2/3	Yes	5	5	4	5	ES	24.99
Fun School Paint and Create	General	5/11	1/2	Yes	2	3	4	3	ES	25.99
Adventures in Fairyland	General	4/8	1/2	No	4	3	5	4	SS	34.99
Creativity Centre	General	5/10	1/2	No	4	3	5	4	SS	29.95
Upside Town	General	5/7	1	No	3	3	5	4	SS	34.95
Mind Games	General	5/10	1/2	No	4	3	4	4	SS	24.95
Fun School Spelling	English	7/11	2/3	Yes	5	5	4	4	ES	25.99
Storybook Weaver	English	5+	1+	No	4	4	5	4	ES	25.99
Mutanoid Word Challenge	English	5+	1+	No	3	2	3	3	ES	19.99
ADI Junior Reading 4/5	English	4/5	1	Yes	4	5	4	4	ES	19.99
ADI Junior Reading 6/7	English	6/7	1/2	Yes	4	5	4	4	ES	19.99
Spellbound	English	5+	1/3	No	4	3	4	4	LS	34.99
Reading Adventures in Wordland	English	4/7	1	No	4	3	4	4	SS	19.99
Henrietta's Book of Spells	English	5+	1+	No	4	5	5	5	LS	34.99
ADI Junior Counting 4/5	Maths	4/5	1	Yes	4	5	4	4	ES	19.99
ADI Junior Counting 6/7	Maths	6/7	1/2	Yes	4	5	4	4	ES	19.99
Hooray for Henrietta	Maths	5/1	1+ 1+	Yes	5	5	4	5	LS	34.99
Fun School Maths	Maths	7/11	2/3	Yes	5	5	4	5	ES	25.99
Count and Add	Maths	>6	1	No	3	2	4	3	LS	34.99
Rainbow Rascal	Graphics	3+	1+	No	3	3	4	3	SS	19.99

HOBBYKIT LTD

CREDIT CARD HOTLINE
☎ 081-205 7485

UNIT 19 CAPITOL INDUSTRIAL PARK
CAPITOL WAY, LONDON, NW9 0EQ
FAX NUMBER: 081-205 0603

HOBBYKIT SYSTEMS	80Mb	210Mb	260Mb	344Mb
386SX-40	(£531.91+VAT =) 625	(£600.00+VAT =) 705	(£629.79+VAT =) 740	(£672.34+VAT =) 790
386DX-40 128K CACHE	(£574.47+VAT =) 675	(£638.30+VAT =) 750	(£668.09+VAT =) 785	(£706.38+VAT =) 830
486SLC2-50 + CO-PRO	(£638.30+VAT =) 750	(£697.87+VAT =) 820	(£727.66+VAT =) 855	(£765.96+VAT =) 900
486SLC2-66 VESA	(£736.17+VAT =) 865	(£800.00+VAT =) 940	(£829.79+VAT =) 975	(£868.09+VAT =) 1020

STANDARD SYSTEMS INCLUDE:

- *14" SVGA COLOUR MONITOR – 0.28" DP*
- SVGA CARD – 512K – 16 COLOURS
- 1MB ON BOARD MEMORY – *EXPANDABLE*
- 3½" 1.44MB ***OR*** 5¼" 1.2Mb FLOPPY DRIVE
- IDE CONTROLLER: 2HDD/2FDD/2S/1P/1G
- AT 102 KEYBOARD
- DESKTOP CASE - 200W PSU WITH DISPLAY
- LICENSED DOS 4.01 - USER MANUAL & DISCS
- 486SLC2-66 HAS A 1MB VESA CARD – CL5428

WE CAN BUILD ANY SYSTEM FOR YOU. A SYSTEM CAN BE SUPPLIED *WITHOUT* A MONITOR OR KEYBOARD, FOR EXAMPLE, IF YOU ALREADY HAVE THEM, OR WE CAN ADD A VESA LOCAL BUS MOTHERBOARD WITH CONTROLLERS; OR ADD A FAX/MODEM OR INSTALL A CD ROM WITH SOUNDCARD FOR A MULTIMEDIA SYSTEM. PLEASE CALL FOR OUR *IMMEDIATE* QUOTATION. ALL SYSTEMS ARE SUPPLIED WITH A *12 MONTHS RETURN TO BASE (R.T.B.) WARRANTY* OR AN OPTIONAL ON-SITE WARRANTY IS AVAILABLE.

FAX / MODEM

INTEGRATED FAX / MODEM
SEND & RECEIVE FAX.

AUTO DIAL / REDIAL – AUTO ANSWER WITH V.22; V.22 BIS, V.42; V.42 BIS; MNP 2-5. FOREGROUND OR TSR MODES. *SUPPLIED WITH FREE SOFTWARE.*
NOT BABT APPROVED *UNLESS STATED*

9648FM (£29.79+VAT =) £35
INTERNAL – 9600 SEND, 4800 RECEIVE/2400

9648FMP (£68.09+VAT =) £80
POCKET – 9600 SEND, 4800 RECEIVE/2400

9648FME (£72.34+VAT =) £85
EXTERNAL – 9600 SEND, 4800 RECEIVE/2400

9624FM (£46.81+VAT =) £55
INTERNAL 9600 SEND, 9600 RECEIVE/2400

9624FMV23 (£63.83+VAT =) £75
INTERNAL – 9600/2400; V.23

9624FM – BABT (£114.89+VAT =) £135
INTERNAL – 9600/2400 – BABT APPROVED

A1414FMC INTERNAL – 14,400; V.32bis & V.17

SPECIAL OFFER – (£110.64+VAT =) £130

A1414FME (£144.68+VAT =) £170
EXTERNAL – 14,400; V.32bis & V.17

MULTIMEDIA

CR562B (£140.43+VAT =) £165
PANASONIC DUAL SPEED CD ROM
WITH AUDIO CABLE & DRIVERS

LU 005S (£123.40+VAT =) £145
MITSUMI CD ROM WITH INTERFACE

CD ROM INTERFACE (£18.72+VAT =) £22
PANASONIC/SONY/MITSUMI

CD TITLES AVAILABLE – PLEASE CALL

ADLIB COMP + SPEAKERS	(£29.79+VAT =)	£35
SUPER SOUND	(£49.36+VAT =)	£58
SUPER SOUND + CD INPUT	(£55.32+VAT =)	£65
SPEAKERS	(£8.51+VAT =)	£10
SPEAKERS WITH 4W AMP	(£16.17+VAT =)	£19
SOUND BLASTER	(£68.09+VAT =)	£80
COMPATIBLE – SC3000 – GALLANT		
SOUND BLASTER + CD INPUT	(£80.85+VAT =)	£95
COMPATIBLE – SC4000 – GALLANT		
SOUND BLASTER PRO 16	(£106.38+VAT =)	£125
COMPATIBLE – SC6000 – GALLANT		
WAVE CARD	(£125.96+VAT =)	£148
COMPATIBLE – GMW1000 – GALLANT		
MIDI CABLE	(£15.32+VAT =)	£18
SOUND BLASTERS SUPPLIED WITH SPEAKERS & MICROPHONE		

ACCESSORIES

5¼" ADAPTOR KIT FOR 3½" FDD	(£5.11+VAT =)	£6
5¼" TRAY ONLY FOR 3½" FDD	(£3.40+VAT =)	£4
POWER LEAD FOR 3½" FDD	(£2.55+VAT =)	£3
IDC PIN TO EDGE CONNECTOR PCB	(£2.55+VAT =)	£3
SHORT FDD CONTROLLER CABLE 2'	(£2.55+VAT =)	£3
LONG FDD CONTROLLER CABLE 4'	(£4.26+VAT =)	£5
POWER SPLITTER - 2 x 5¼"	(£3.40+VAT =)	£4
POWER SPLITTER - 1 x 5¼" / 1 x 3½"	(£3.40+VAT =)	£4
HDD CABLE - MFM/RLL/ESDI	(£5.11+VAT =)	£6
HDD CABLE - MFM/RLL - 2 DRIVES	(£7.66+VAT =)	£9
SCSI HDD CABLE - 2 DRIVES	(£5.11+VAT =)	£6
IDE HDD CABLE - SHORT - 2 DRIVES	(£3.40+VAT =)	£4
IDE HDD CABLE - LONG - 2 DRIVES	(£5.11+VAT =)	£6
KEYBOARD EXTENSION CABLE	(£1.70+VAT =)	£2
PS 2 KEYBOARD ADAPTOR	(£3.40+VAT =)	£4
SERIAL MOUSE TO PS 2 ADAPTOR	(£5.11+VAT =)	£6
VGA EXT CABLE - 9 PLUG/9 SKT	(£3.40+VAT =)	£4
VGA EXT CABLE - 15 PLUG/15 SKT	(£5.11+VAT =)	£6
PARALLEL PRINTER CABLE	(£5.11+VAT =)	£6
SERIAL PRINTER CABLE	(£5.11+VAT =)	£6
MODEM CABLE - 25 MALE/9 FEMALE	(£5.11+VAT =)	£6
NULL MODEM CABLE	(£6.81+VAT =)	£8

MOTHERBOARDS

386SX-40		(£59.57+VAT =)	£70
386DX-40	128K CACHE	(£97.87+VAT =)	£115
486SX-33	128K CACHE	(£170.21+VAT =)	£200
486SLC2-50 (IBM)	+ CO-PRO	(£157.45+VAT =)	£185
IBM MOTHERBOARDS HAVE A *3 YEAR WARRANTY*			
486DLC-40	+ CO-PRO & 128K CACHE	(£165.96+VAT =)	£195
486 HEATSINK WITH FAN		(£7.66+VAT =)	£9
387 (SX or DX) CO-PRO		(£46.81+VAT =)	£55
SIMM MEMORY – 256K / 1Mb / 4Mb			£CALL

VESA LOCAL BUS

486VL *WITH 256K CACHE & P24T SOCKET*
486SLC2 (IBM) *WITH 64K CACHE*
IBM MOTHERBOARDS HAVE A *3 YEAR WARRANTY*

486VL - BOARD ONLY	(£85.11+VAT =)	£100
486VL + 486SX-25 CPU	(£144.68+VAT =)	£170
486VL + 486SX-33 CPU	(£157.45+VAT =)	£185
486SLC2-50 (IBM) + CO-PRO	(£195.74+VAT =)	£230
486VL + 486DX-33 CPU	(£289.36+VAT =)	£340
486VL + 486DX-40 CPU	(£285.11+VAT =)	£335
486SLC2-66 (IBM) + CO-PRO	(£238.30+VAT =)	£280
486VL + 486DX2-50 CPU	(£306.38+VAT =)	£360
486VL + 486DX2-66 CPU	(£400.00+VAT =)	£470
CPU's AVAILABLE SEPARATELY – PLEASE CALL		
IDE - ENHANCED MULTI I/O	(£76.60+VAT =)	£90
2HDD/4FDD/4S/2P/1G WITH HIGH SPEED 4S & BI-DIRECTIONAL 2P		
IDE - 2HDD/2FDD/2S/1P/1G	(£17.02+VAT =)	£20
SVGA - 1Mb 16.7M COLOURS	(£72.34+VAT =)	£85

COMPUTER CASES

WITH PSU (★) INDICATES 3 SPEED DISPLAY

FLIP-TOP	4 BAYS	(£42.55+VAT =)	£50
DESKTOP (★)	4 BAYS + 1 HIDDEN	(£46.81+VAT =)	£55
MINI TOWER (★)	4 BAYS + 1 HIDDEN	(£46.81+VAT =)	£55
MIDI TOWER	5 BAYS	(£68.09+VAT =)	£80
TALL TOWER (★)	5 BAYS + 1 HIDDEN	(£85.11+VAT =)	£100

OTHER STYLES AVAILABLE - PLEASE CALL

CONTROLLER CARDS

IDE	- 16 BIT - 2HDD/2FDD	(£8.51+VAT =)	£10
IDE	- 16 BIT - 2HDD/2FDD/2S/1P/1G	(£10.21+VAT =)	£12
IDE	- 16 BIT - 2HDD/*4FDD*/2S/1P/1G	(£42.55+VAT =)	£50
HIGH SPEED SERIAL & BI-DIRECTIONAL PARALLEL			
IDE	- 16 BIT - 2HDD/2FDD/2S/1P/1G	(£34.04+VAT =)	£40
HIGH SPEED SERIAL & BI-DIRECTIONAL PARALLEL			
IDE	- 16 BIT - 2HDD/*4FDD*/2S/1P	(£28.09+VAT =)	£33
IDE	- XT - 8 BIT	(£34.04+VAT =)	£40
IDE	- CACHE - DC600CF + FDD	(£76.60+VAT =)	£90
DISK JOINING (LINKING) & MIRRORING - 16 Mb MAX. CACHE			
IDE	- CACHE - DC600C	(£68.09+VAT =)	£80
DISK JOINING (LINKING) & MIRRORING - 16Mb MAX. CACHE			
SCSI1	- 8 BIT – HDD ONLY	(£24.68+VAT =)	£29
SCSI1	- 16 BIT - WITH IDE/FDD/2S/1P/1G	(£42.55+VAT =)	£50
SCSI2	- 16 BIT - WITH FIFO + IDE/FDD	(£76.60+VAT =)	£90
DC300B - SCSI 1& 2 - CACHE		(£114.89+VAT =)	£135
512K CACHE - ADAPTEC 1540/1542 COMPATABLE - ASPI DRIVERS			
DC800B - SCSI 1& 2 - CACHE		(£144.68+VAT =)	£170
AS DC300B - EXPANDABLE CACHE - 4 SIMM SOCKETS TO 16Mb			
XT - RLL	- HDD ONLY	(£30.64+VAT =)	£36
AT - RLL	- 2 x HDD ONLY	(£18.72+VAT =)	£22
AT - MFM	- 2 x FDD/2 x HDD	(£29.79+VAT =)	£35
ESDI - WD1007 - WITH FDD		(£42.55+VAT =)	£50
FDD - SECONDARY - XT/AT		(£25.53+VAT =)	£30
I/O CARD - 2S / 1P		(£21.28+VAT =)	£25
HIGH SPEED SERIAL & BI-DIRECTIONAL PARALLEL			
I/O CARD - 2S / 1P /1G		(£8.51+VAT =)	£10
I/O CARD - 2S / 2P		(£13.62+VAT =)	£16
HIGH SPEED SERIAL CARD		(£17.02+VAT =)	£20
SERIAL CARD - 2 PORT		(£11.91+VAT =)	£14
PARALLEL CARD - 2 PORT		(£10.21+VAT =)	£12

TAPE STREAMER

250 Mb -	INTERNAL - IOMEGA	(£119.15+VAT =)	£140
250 Mb -	EXTERNAL - IOMEGA VIA PARALLEL PORT	(£280.85+VAT =)	£330

IOMEGA TAPE UNITS HAVE A 2 YEAR WARRANTY

DC 2120 -	TAPE FOR 250/305	(£11.06+VAT =)	£13
DC 600 -	TAPE FOR QIC36	(£8.51+VAT =)	£10

HARD DISC DRIVES

60 Mb	SCSI	(£93.62+VAT =)	£110
85 Mb	SCSI	(£114.89+VAT =)	£135
80 Mb	IDE	(£114.89+VAT =)	£135
210 Mb	IDE	(£182.98+VAT =)	£215
260 Mb	IDE	(£212.77+VAT =)	£250
344 Mb	IDE	(£251.06+VAT =)	£295
REMOVABLE MOUNTING KIT - 3½" IDE		(£17.02+VAT =)	£20
MOUNTING KIT (RAILS/BEZEL/LED)		(£4.26.+VAT =)	£5
MOUNTING KIT (RAILS ONLY)		(£2.55.+VAT =)	£3

HARDCARDS

SCSI WILL CO-EXIST WITH *ANY* HARD DRIVES. *SUPPLIED WITH DOS 4.01*

60 Mb - SCSI - XT or AT	(£136.17+VAT =)	£160
85 Mb - SCSI - XT or AT	(£157.45+VAT =)	£185

FLOPPY DISC DRIVES

3½" 1.44M	INTERNAL	(£27.23+VAT =)	£32
3½" 720K	INTERNAL	(£25.53+VAT =)	£30
3½" 720K	INTERNAL - SUITABLE FOR XT'S	(£38.30+VAT =)	£45
3½" 720K	EXTERNAL - DRIVE ONLY	(£22.13+VAT =)	£26
5¼" 360K	INTERNAL – GREY OR BLACK	(£17.02+VAT =)	£20
5¼" 1.2M	INTERNAL	(£34.04+VAT =)	£40
3½" 1.44 DISKS - PACK OF 10		(£5.96+VAT =)	£7

MONITORS

14" SVGA COLOUR 0.28" DP	(£204.26+VAT =)	£240
NON-INTERLACED/LOW RADIATION		
14" SVGA COLOUR 0.28" DP	(£187.23+VAT =)	£220
14" SVGA MONO - 1024x768	(£80.85+VAT =)	£95

GRAPHICS CARDS

HERCULES	MONO	(£10.21+VAT =)	£12
VGA	256K - 8 BIT	(£25.53+VAT =)	£30
VGA	256K - 16 BIT	(£21.27+VAT =)	£25
SVGA	512K - 16 BIT	(£27.23+VAT =)	£32
SVGA	1Mb - 16 BIT	(£46.81+VAT =)	£55
SVGA	1Mb CL5422 - 16M COLOURS	(£55.32+VAT =)	£65
TSENG	1Mb ET4000 - 16M COLOURS	(£72.34+VAT =)	£85

INPUT DEVICES

HAND SCANNER 256 GREY SCALE	(£82.55+VAT =)	£97
3 BUTTON MOUSE + DRIVER S/W ON 5¼"	(£6.81+VAT =)	£8
3 BUTTON MOUSE + MAT & ADAPTER	(£9.36+VAT =)	£11
3 BUTTON MOUSE + IMAGE 72	(£17.02+VAT =)	£20
TRACKBALL - HANDY MOUSE	(£21.28+VAT =)	£25
AT/XT 102 KEYBOARD	(£20.43+VAT =)	£24
AT 102 KEYBOARD	(£17.02+VAT =)	£20

OPERATING SYSTEMS

SUPPLIED WITH MANUALS

MS DOS 3.2	- LICENSED - 3½" DISCS	(£4.26+VAT =)	£5
MS DOS 3.3	- LICENSED - 5¼" DISCS	(£4.26+VAT =)	£5
MS DOS 4.01	- LICENSED - 3½" DISCS	(£6.81+VAT =)	£8
MS DOS 5.0	- LICENSED - 3½" DISCS	(£25.53+VAT =)	£30
MS DOS 6.0	- ORIGINAL - 3½" DISCS	(£38.30+VAT =)	£45
MS DOS 6.2	- ORIGINAL - 3½" DISCS	(£42.55+VAT =)	£50
WINDOWS 3.1	- LICENSED - 3½" DISCS	(£34.04+VAT =)	£40
WINDOWS FOR WORKGROUPS 3.11		(£51.06+VAT =)	£60

ALL PRICES ARE SUBJECT TO CHANGE WITHOUT PRIOR NOTICE
ALL GOODS ARE COVERED BY A *RETURN TO BASE WARRANTY*

PAYMENT BY CHEQUE

PLEASE PRINT YOUR CHEQUE GUARANTEE CARD NUMBER ON THE REVERSE OF THE CHEQUE

PRICING

PRICES SHOWN ( ) *EXCLUDE VAT*
PRICES IN COLOUR *INCLUDE VAT*

POSTAGE *(PER ORDER)*

£6 FOR 48 HOUR DELIVERY – NOT WEEKENDS
£10 FOR NEXT DAY DELIVERY – NOT WEEKENDS

POSITIVE STEPS

Wayne Williams takes a look at Mindscape's brand new suite of edutainment programs

THE edutainment market is currently developing at an incredible rate and, although a good percentage of the programs being written to take advantage of this huge interest are by British-based companies, a fair amount of American programs are muscling their way into the market, trying to persuade the next generation to spell colour without the *u*.

Thankfully Mindscape's entry into the world of edutainment isn't one of them. Primary Works, a suite of four different programs aimed at 3 to 12-year-olds, has been specially developed in schools to match the requirements of the UK's National Curriculum. (See *Education Matters* page 83).

Another plus point in favour of the Primary Works series is that all the programs have been written to fit together, rather like a set of building blocks, so when you install one for the first time it automatically creates a basic shell into which others in the series can be added.

Rather neatly it keeps track of which parts you have on your machine, building and updating a menu that allows you to change from one part to another with the minimum of fuss. Although all of the programs in the Primary Works series have been designed to run via Dos, a set of icons is included on each disk so that the various sections can also be accessed, in any order, through Windows. A rather nice touch.

First steps

FIRST Steps aims to teach children aged between three and seven some basic skills and provide an introduction to computers at the same time.

The program is made up of four different sections – Collage, First Steps, Match, and Move It.

The first of these is the computer equivalent of fuzzy felt and provides a set of backgrounds on to which a variety of pieces, or snippets, can be stuck.

These can then be moved around using the mouse or hidden under other snippets and suddenly revealed at an appropriate moment in the story.

A selection of backdrops and characters for some famous children's tales, like the Three Little Pigs for example, has been included and some of the pieces are even semi-animated which is rather smart.

The First Steps section itself is split into four parts. Fish and Net are very similar and involve guiding a fish to its home, avoiding either other fish or the edges of a net, depending on which game you select. And Faces and Houses are two variations on the old spot the odd-one out theme.

Move It is a puzzle game which involves un-jumbling a picture that has been split up into either vertical or horizontal bands – done simply by clicking on a part and then clicking on where you think it should be moved to.

The final section of this particular package, Matching, involves matching pairs of shapes which are all hidden behind windows. Only two shapes can be revealed at any time so it's all about remembering which ones you've seen before and where.

First Steps is, on the whole, a pretty good and fairly varied educational package. Collage in particular is great fun and offers a fair bit of variation, with a large choice of snippets that should keep a child's imagination occupied for some time.

Product	First Steps
✔	Fun and fairly varied
✘	Limited appeal on some sections
PCH Verdict	★★★★☆☆

Bet you can't guess which face is the odd one out

Helping the fish get home shouldn't prove too taxing

Create your own pictorial stories with Collage

Second steps

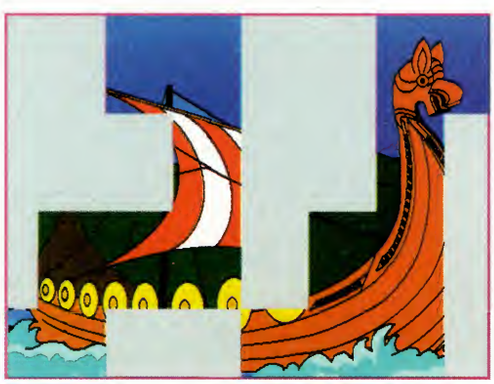
AIMED at the slightly older 5 to 9-year-old age group, Second Steps offers slightly less variation – three different sections in all. In the first – Click – the screen is divided up into 32 squares and every time the mouse pointer is clicked on one a portion of a picture is revealed.

Messages can be assigned to each square so that clicking on it will bring up a small caption as well, and once the child has worked out what the picture is the whole thing can be fully revealed with a click on the appropriate part of the screen.

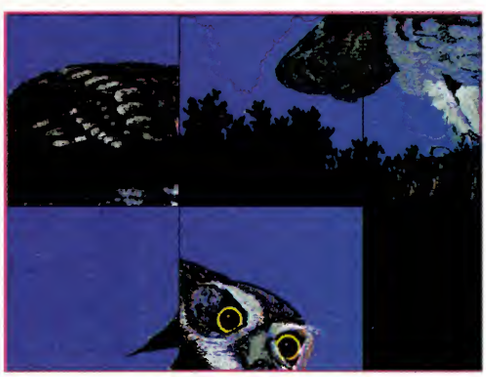
Slide It is similar to Move It in that it involves un-jumbling a picture. The main difference here though is that the pieces have to be slid around the screen one at a time as opposed to simply moved. I've always been hopeless at these sort of games and after five long attempts I still can't manage to come close to completing one of the more complicated pictures on the hardest level.

Point is the third and final game in the package and offers a series of shapes which can be moved, rotated and even coloured to make up basic patterns or pictures. There are four different assortments of shapes to choose from and any of these can mixed together to make a new set.

Second Steps isn't going to hold a child's attention for very long. The Slide It puzzle will doubtless provide the most entertainment, but I would think both Click and Point will start to lose their appeal quickly. As a standalone package, I'm afraid Second Steps doesn't really provide great value for money.



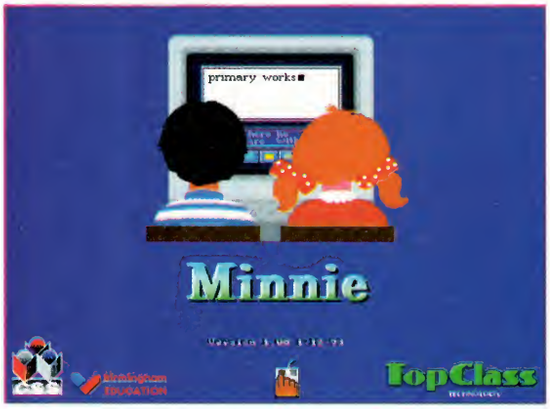
Reveal a Viking Longboat and other wonders with Click



It's an owl but I can't seem to get the pieces in the right order

Product	Second Steps
✔	Easy to get into
✘	Unlikely to have lasting appeal
PCH Verdict	★★☆☆☆☆

POSITIVE STEPS



Little Author, or Minnie, is incredibly basic

Create your own simple stories with little Minnie

Little Author

ALTHOUGH the package is called Little Author the program itself is in fact a simple wordprocessor called Minnie – presumably because of its size – which children can use to create their own stories.

This feat is achieved either by simply typing them directly into the PC from the keyboard or by clicking, one at a time, on the selection of useful words and phrases that the program provides. Although using this point and click method allows wondrous tales to be constructed quickly and easily it's impossible to write a complete story from beginning to end without touching the keyboard at some stage – at the very least the child will still need to type in various linking words such as *and* and *the.*

The same selection of well known children's tales available in First Steps are also featured in Little Author, which means that if you have both of these packages you can recreate the same story in both words and pictures.

This is a nice touch which shows the thought that has gone into the interconnectivity of the four packages.

Plenty of options are available in Minnie – you can choose between small or large text, set the screen to black on white or white on black, and print out in a variety of font styles.

The function keys can also be assigned so that pressing one will bring up part of a border, or some obscure Maths, French, German or Spanish characters.

Although it probably sounds okay, this is without doubt the poorest of the packages and the use of the function keys is pretty bizarre. The borders option might at some stage be of minimal interest but the rest of the options are completely pointless.

Twenty pounds for a wordprocessor as poor as this seems an awful lot of money, and there are far better options around which, although possibly costing a little more, provide far better value.

Product	Little Author
✔	Nice point and click interface
✘	Very basic wordprocessor
PCH Verdict	★☆☆☆☆☆

Little Artist

THIS is a suite of three art-based programs comprising a simple drawing package called Paintpot, a simple animation program called Animate and a design section called Snippets.

Paintpot offers a choice of four levels of complexity which allow children to decide whether they want to sketch properly, do some doodling, create some designs or just play. Choosing the first option beings up the usual selection of drawing tools and a simple colour palette, and Doodle and Design offer variations.

Play is, on the other hand, pretty pointless, but fun, and lets children draw lines on the screen using a star, circle or square brush, in bright random colours which can then be made to flash alternately.

A Symmetry option allows the painting to be reflected about the centre of the picture according to which selection option is chosen. These include drawing around a vertical axis, a horizontal axis, two axis, or in 180 degree rotation.

Animate is a pretty basic animation package that will allow a child to select four frames and then play them one after the other. A good selection is provided that can be changed or new ones drawn at any time.

The play rate can be speeded up or slowed down, and the whole animation can be looped to run over and over again.

The final section, Snippets, will allow you to create set pieces for any of the other two parts, and you can even load them up into other programs in the series such as Collage from First Steps.

This means you can breathe new life into other sections which might have lost their appeal.

Little Artist is a pretty good package, although again it's very simple. However, out of all the programs in the series it probably offers the longest lasting appeal.

Create your own snippets for use in other Primary Works programs

Draw patterns and make them flash with in Paintpot

Product	Little Artist
✔	Plenty of nice features, fun to use
✘	Won't really grow with the child
PCH Verdict	★★★★☆☆

Primary Works – or does it?

THE series works well: With all four programs combined there's plenty to do and stacks of variation.

Where it falls down, though, is that individually some of the packages are limited and Little Author and Artist don't even come slightly close to the likes of Microsoft's Creative Writer and Fine Artist.

Admittedly at only £20 a shot they aren't all that expensive but it soon adds up if you are shelling out for the whole suite which I think you need to do to get any great lasting use out of Primary Works.

Fortunately you can add programs as and when you can afford them, or your children need them, but there really should be substantially more to each of the various programs than there is at the moment.

Think carefully about buying just one or two of these packages as there are other programs which although they might be twice as dear offer considerably more and in the long run will provide far greater value for money.

● *Each package costs £19.99. Call Mindscape on 0444 246333 for more information.*

LOWEST PRICED TOP QUALITY RIBBONS, INKJETS, TONERS & DISKS

Printer Ribbons

BLACK	1 off	2+	5+	10+
Amstrad DMP 2000/3000	2.80	2.65	2.45	2.25
Amstrad DMP 4000	3.66	3.51	3.31	3.11
Amstrad PCW8256/8512/LQ3500	2.85	2.70	2.50	2.30
Brother M1009/1024/1109/1209	3.90	3.75	3.55	3.35
Citizen 120D/LSP10/Swift 24/9	2.85	2.70	2.50	2.30
Commodore MPS 1220/1230	4.50	4.35	4.15	3.95
Epson LQ100	4.10	3.95	3.75	3.55
Epson LQ400/500/800/850	3.45	3.30	3.10	2.90
Epson FX/MX/RX80/FX/LX800	2.90	2.75	2.55	2.35
Epson FX/MX/RX100/FX/MX1000	3.36	3.21	3.01	2.81
Epson LX80/86/90	2.12	1.97	1.77	1.67
Mannesmann Tally 80/81	3.90	3.75	3.55	3.35
NEC Pinwriter P2200	3.03	2.88	2.68	2.48
OKI ML182/183/192/193/195	3.17	3.02	2.82	2.62

BLACK	1 off	2+	5+	10+
Panasonic KXP1123/1124/1140	3.46	3.31	3.11	2.91
Panasonic KXP1080/1180/90/1592	2.89	2.74	2.54	2.34
Panasonic KXP2123/2180	5.75	5.60	5.40	5.20
Seikosha SL90/92/95	5.70	5.55	5.35	5.15
Star LC10/20/100	2.29	2.14	1.94	1.84
Star LC200	3.00	2.85	2.65	2.45
Star LC24-10/200	2.86	2.71	2.51	2.31
Taxan Kaga KP810/815/910/915	3.14	2.99	2.79	2.59
COLOUR	1 off	2+	5+	10+
Citizen Swift 24	12.81	12.66	12.46	12.06
Panasonic KXP2123/2180	10.63	10.48	10.28	9.88
Star LC10/20/100	6.00	5.85	5.65	5.25
Star LC200	9.78	9.63	9.43	9.03
Star LC24-10/200	9.63	9.48	9.28	8.88

Ring for Ribbons Not Listed.

Ring us and WE WILL BEAT all other Ribbon prices

3½" Disks & Disk Boxes

	DS/DD	DS/HD
10 Disks	£5	£8
25 Disks	£12	£18
50 Disks	£21	£31
100 Disks	£36	£56
250 Disks	£83	£128
500 Disks	£162	£238

100 Cap. Lockable Disk Box £5.99 with orders of £10+

Preformatted (MS-DOS) disks available at 2p extra/disk.

All Disks Certified 100% Error Free and INCLUDE FREE Labels.

Inkjets, Ink Refills & Toners

Canon BJ-10/20 Cartridge	17.54 each
Commodore MPS1270 Cartridge	12.13 each
HP Deskjet Cartridge (Double Cap.)	24.24 each
HP Deskjet Tri-Colour Cartridge	28.89 each
HP Thinkjet/Quietjet Cartridge	12.13 each
HP Deskjet Tri-Colour Cartridge Refill	16.00 each

Inkjet Refills (Twin Packs) for Canon BJ-10/20, BJ300, HP Deskjet. Available in Black, Cyan, Magenta, Yellow, Red, Blue, Brown, Light Green, Dark Green and Gold.
1 Pack £11.00, 2+ Packs £10.60 ea, 5+ Packs £9.95 ea

HP Laserjet II/III Toner Cartridge	44.51 each
HP Laserjet IIP/IIIP Toner Cartridge	53.14 each

Ring For Inkjets & Toners Not Listed.

Miscellaneous Items

Roll 1000 3½" Disk Labels	8.99
3½" Disk Cleaning Kit	2.99
Parallel Printer Cable (1.8m)	3.99
Mouse Mat	2.99
CPU & Monitor Dust Cover	5.49
Monitor Dust Cover	4.99
80 Column Printer Dust Cover	3.99
Amiga 500 Dust Cover	3.99
Amiga 600 Dust Cover	3.99
Amiga 1200 Dust Cover	3.99

All Prices INCLUDE VAT (@ 17½%) & UK DELIVERY

0543 250377 Ring us or send cheques to: 0543 250377
Owl Associates Ltd, Dept 212, Owl House,
5 The Brambles, Lichfield, Staffs WS14 9SE
Official Government & Educational orders welcome

Access VISA E & OE

THE ORIGINAL
THE BEST

BLASTER

THE SOUND STANDARD

PC SOUND

CREATIVE
CREATIVE LABS

Tel: 0743 248590

Tom Jackson's Award Winning

Perfect CV
Computer Kit™

In today's tough job market, your CV must be more than just an attractive layout. It must be based on an in-depth understanding of your skills, strengths, values and achievements, telling the employer that you are the right person for the job.
Based on the world's No. 1 CV book ***The Perfect CV*** by top career consultant Tom Jackson, this 2-part software package will help you build up a database of information to produce effective focused CVs in a range of styles, layouts and formats to print directly or send to your favourite WP/DTP software.
Used by careers services, colleges, HM & US Forces, and thousands of private users world-wide, it has helped over ***a million people*** to get job interviews. Easy to use, step by step procedure, suitable for everyone. IBM PC and compatibles. 512K RAM. Runs on hard disk or floppy.

Also available in multi-user Career Centre Versions.
SCHOOLS & COLLEGES:
Ask about Tom Jackson's new CV Express software.

Personal Version
£36.95
+ £3 p&p

SPECIAL OFFER
Power Letters™
JOB SEARCH MANAGER
ONLY **£19.95** EXTRA
WITH CV SOFTWARE

K.I.M.S.
(Dept PCH)
PO Box 28, East Horsley
Surrey KT24 6QZ

TELEPHONE ORDERS:
0483 285555
FAX: 0483 285640

VISA Access MasterCard

Welcome to the GAMES

FEATURES

Under development

95 Andy Shaw and Pete Hawley look at what's up and coming in the world of games. Heimdall 2, Desert Strike and Zool 2 are all featured in our previews

ECTS report

115 Andy Shaw returns from the European Computer Trade Show with all the news of what the games houses have on their drawing boards and more

The Hit Squad

119 Continuing our series on the best in good value gaming, the *PC HOME* team present the first half of a two-part mini-series featuring Ocean's Hit Squad budget range. More next month

Games degree

123 We all know that playing games for a living is a tough old life, but now you can study it at university too. Rob Smith decides to check out whether he could be eligible to do an MA in Games Design

Retrospec

124 Pete Hawley produces some rose tinted spectacles, wandering deep into his past when the Sinclair Spectrum was every young person's dream machine. Now you can play Speccy games on your PC as he will explain

REVIEWS

Sam & Max CD

101 Is it possible to make one of the best graphic adventures even better? Darren Allen hits the road to check out this talkie version

Fleet Defender

102 Flight simulation experts Microprose offer the opportunity to fly an F-14 from an aircraft carrier. Fly sorties all over the world with Darren Allen at the stick

Myst

104 Pete Hawley finds himself stranded on a magical island. Do the beautiful ray traced graphics and ambient sound track make this the graphic adventure for the flower power generation?

Ravenloft

106 Gothic roleplaying from the SSI/AD&D connection. Darren Allan smothers himself in garlic and crucifixes before readying himself for wolves, bats and vampires

HIT parade

We pass on the news of what's hot in the shops this month. All charts supplied by ELSPA/Gallup

FULL PRICE

1	Sim City 2000	Maxis	£39.99
2	Fleet Defender	Microprose	£44.99
3	Premier Manager 2	Gremlin	£34.99
4	Beneath a Steel Sky	Virgin	£34.99
5	Pagan: Ultima VIII	Electronic Arts	£49.99
6	Flight Simulator 5	Microsoft	£39.99
7	UFO: Enemy Unknown	Microprose	£44.99
8	Frontier: Elite 2	Gametek	£39.99
9	Elder Scrolls	US Gold	£45.99
10	TFX	Ocean	£44.99

CD-ROM

1	MegaRace	Mindscape	£39.99
2	7th Guest/Dune	Telstar Fun & Games	£49.99
3	Day of the Tentacle	US Gold	£45.99
4	Rebel Assault	US Gold	£45.99
5	Battle Isle 2	Blue Byte	£49.99
6	CD Challenge Pack	Mindscape	£39.99
7	Ravenloft	US Gold	£45.99
8	Iron Helix	Microprose	£39.99
9	Gabriel Knight	Sierra	£44.99
10	Frontier: Elite 2	Gametek	£39.99

BUDGET

1	Monkey Island	Kixx	£16.99
2	Eye of the Beholder	Kixx	£16.99
3	Wing Commander	Hit Squad	£14.99
4	Sim City Classic	Hit Squad	£16.99
5	Populous & Promised Lands	Hit Squad	£14.99
6	Police Quest 2	Kixx	£14.99
7	Another World	Kixx	£14.99
8	Crazy Cars	Fox Hits	£7.99
9	Fun School 2 Under 6	Hit Squad	£9.99
10	Winter Challenge	Hit Squad	£12.99

CON

arena

Carriers at War 2 vs Great Naval Battles 2

108 War at sea is always a bit of a messy business, but with Pete Hawley in command , things could get very sticky indeed. Watch out for stray missiles

Detroit

110 Car manufacture has not been the subject of many games, but now you can produce your perfect roadster in this business simulation. Beware of Pete Hawley's out of control Model T

F1

111 Darren Allan, *PC HOME*'s very own Nigel Mansell look-a-like takes to the track in this Formula One arcade game. Take a tip from the rest of us and stand well back from the edge of the track

Merchant Prince

112 Showing off his skill at double dealing and getting rich off the backs of those less fortunate than himself, Darren Allan heads back in time to become a land owning, money grabbing, black market trading member of the royal family. He should be so lucky!

Arena quickies

127 The *PC HOME* team look at the rest of the games that flopped into the office for our perusal, but too late for full coverage

Pacific Strike

98 STRIKE Commander, released about a year ago, redefined everything we thought about flight simulation. It was fully featured, graphically lush and had a storyline to follow allowing for involvement and thrills all in one package.

Origin have now followed up the success of this with Pacific Strike, a World War II based flight sim which pits the Americans against the Japanese in the early 1940s. As you'd probably expect from an Origin flight sim, there's a whole stockpile of beautiful graphics, plenty of playability and a nice juicy plot.

There's also a mission designer, the option to play either side and enough open endedness to keep most people happy for a good while.

However, it's becoming needless to say that you need a powerful computer to fully appreciate an Origin game, and this one is no exception. Darren Allen, complete with leather helmet and dashing smile, examines what is potentially the hottest flight sim of the year.

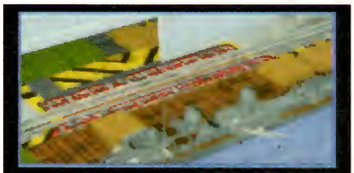
For each title we let you know who publishes it and the cost

Will your PC run the software? How much disk space does it need? Find out here

We list some other games of the same genre, whether they were reviewed in *PCH* and how much they scored

How the game scores in the categories that really matter

Our verdict box gives the bottom line on the game



PACIFIC STRIKE

Publisher	Electronic Arts
Telephone	0753 549442
Price	£44.99
Format	Floppy

REQUIREMENTS

PC	486 33MHz
Total memory	4Mb
Sound support	AdLib, SoundBlaster, Roland, General Midi
Control	Keyboard, joystick
Hard drive	18Mb

ALTERNATIVELY

Strike Commander
Electronic Arts
Reviewed Jun 93
Verdict 90%
Not as sharp as Pacific, but obviously better suited to those who prefer modern warfare

RATINGS

GRAPHICS	★★★★★★
SOUND	★★★★★★
LONGEVITY	★★★★★★
GAMEPLAY	★★★★★★

PC home VERDICT

"This is one machine intensive game, make no mistake but, nevertheless, it contains a wealth of highly playable material"

86%

TENTS

REUNION

MAIN CONTROL AREA

COCKPIT AREA

PLANET AERIAL VIEW

GRANDSLAM

◄ ACTUAL SCREENSHOTS ►

BATTLE COMMANDERS

THE GREATEST VOYAGE OF ALL HAS BEGUN

"REUNION GIVES LUCASARTS A RUN FOR THEIR MONEY!! - WHOEVER BUYS THIS GAME WON'T BE DISAPPOINTED" - DAVE WESTLEY - PC POWER

"HAS DEPTH AND PLAYABILITY - WE RECOMMEND IT" - MARK BURGESS - PC ZONE

"BEAUTIFULLY PRESENTED AND ABSORBING SPACE ODYSSEY - YOU CANT STOP PLAYING IT" - 92% GURU

"ABSOLUTELY ENORMOUS AND YOU BECOME SO INVOLVED THE HOURS JUST WHITTLE AWAY" - PETE HAWLEY - PC ACTION

"VISUALLY SUPERB AND POSSESSES BAGS OF CHARACTER" - DAREN ALLAN - PC ACTION

"A BRILLIANT SPACE COLONISATION SIMULATION FOR SCIENCE FICTION STRATEGISTS" - 85% HIT - MANFRED DUY - PC JOKER

"A STRATEGY GAME THAT BREAKS NEW GROUND, A CHALLENGE NOT TO BE MISSED. BUY IT!" - DEREK DELA FUENTE - ASM+SKY, SATELLITE TIMES

Available on: IBM PC + COMPATIBLES + AMIGA

Under development

Andrew Shaw falls back through time to the age of the Norse gods to snatch an early look at Heimdall II, a new arcade adventure from Core Design

A VERY long time ago, in the age of Ragnarok, the Norse gods used to argue among themselves. There was one particular god called Loki, also known as The Trickster, who was cast out of Valhalla.

As revenge and to increase his power he set his armies on to the world to destroy villages and towns until everybody surrendered to his way of thinking.

Needless to say, Odin and the other gods were none too happy with all this. Something had to be done, so Odin recalled a time when a magic amulet was found that was powerful enough to freeze even a God.

Unfortunately, when he first found out how powerful it was he broke it into four pieces and threw the remains through different portals to spread them around the world.

Heimdall II is the story of how the god Heimdall relinquishes his divinity in order to return to the land of the living to hunt down the pieces of the amulet. Joining him on his quest this time is Ursha, a Valkyrie, who can be used either as the main character or as a back-up should Heimdall die.

The original Heimdall game was probably most remembered for its arcade sequences. There will be few people who played the original who don't remember the bit where you had to throw axes at a young lady's head in order to free her from a particularly nasty fate.

Heimdall II doesn't have any of these and is solely based around exploration, puzzle solving and fighting.

There are six worlds to explore, the first of which is shown in the screen shots. To progress through each world you must find a piece of the amulet, or one of the talismans that allow access to the next world.

As you go along there are sub-missions to complete. These usually consist of people being in trouble due to all the chaos Loki is bringing into the world.

Gameplay is fairly challenging, with puzzles being mainly built up around finding objects and using them to change your environment to make progress. Others involve talking to people to find clues which can help you get access to hidden rooms or little bits of sub-plot.

The graphics have a very cartoon like feel to them. If you want your fantasy fare to look and feel like an Ultima game, this probably won't be serious looking enough. However, the sprites are big and the characters are stylised, varied and colourful.

The controls are definitely arcade oriented. Your character is rotated using the left and right cursor keys, while the up arrow gets you moving and the down arrow draws you to a halt.

You can also use a mouse though this is far clumsier in a game like this. This is obviously rather different to other top-down view games which usually involve mouse control alone.

There is also a fair emphasis on fighting, though this, too, is arcade oriented. You basically have to position yourself next to an enemy and knock the stuffing out of it before it has any chance to react.

Heimdall is slightly stronger than the creatures he meets but don't expect anything too great – get thumped too often and the chance of returning to Valhalla and regaining immortality are right out the window – at least until Heimdall III.

Arcade action games aren't exactly prevalent on the PC at the moment, so those who find traditional role-playing a little heavy should watch out for the review, hopefully in next month's issue of *PC HOME*.

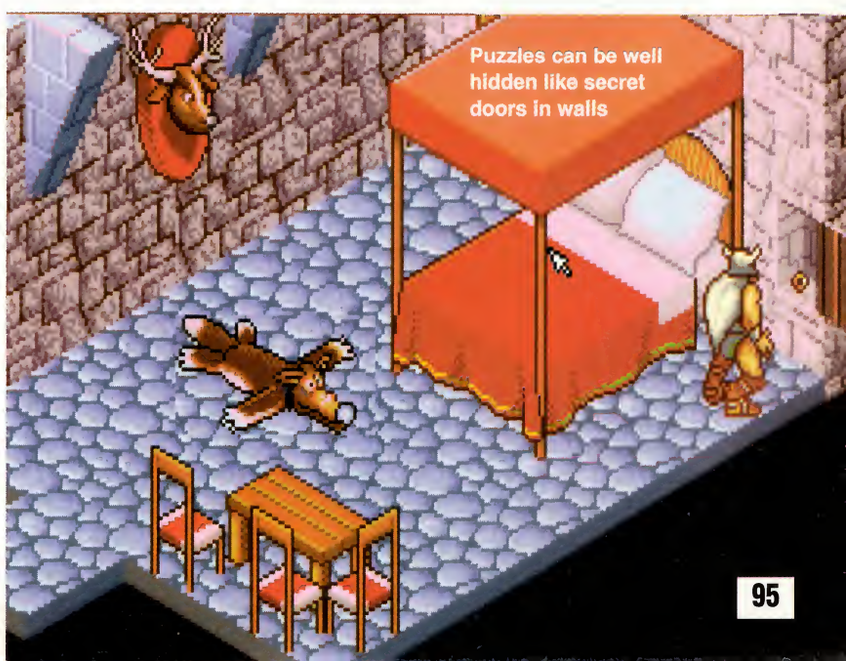
● *Heimdall II is due in the shops in mid-May from Core Design (0332 297797) and should retail at £39.99.*

Outside the castle, the first problem is how to get in

This poor lady has lost her son – not a happy situation

An item holding the king's crest is needed to pass the guard

Some characters can be particularly helpful



Under development

Gremlin's two

Pete Hawley takes a sneak peek at a couple of this summer's biggest releases from Gremlin Graphics – Zool 2 and Desert Strike

ZOOL 2

THE original Zool on the PC is considered to be its first true platform game. Now, the ninja from the Nth dimension returns in more of the same sweet eating and jelly bashing.

The PC has always been slated for being very poor in the scrolling department, but Zool dispelled these myths by giving PC owners the chance to compete along side the consoles as far as platform games go.

Zool is a funny little character who spends his time racing about a fantasy realm of confectionery collecting Chuppa Chupp lollipops and other things equally bad for the teeth. Platform games aren't everybody's cup of tea but if you like leaping about collecting things and jumping on jelly's heads Zool is the ideal game. That is until now.

Zool 2 sees the return of the loveable Nth dimension chap, revamped, redrawn and revitalised. The main character sprite has been enhanced to look more like it's been drawn with the PC in mind and not a 32-colour console. The new levels look bright and colourful and there are many new characters and bad fruit to annihilate.

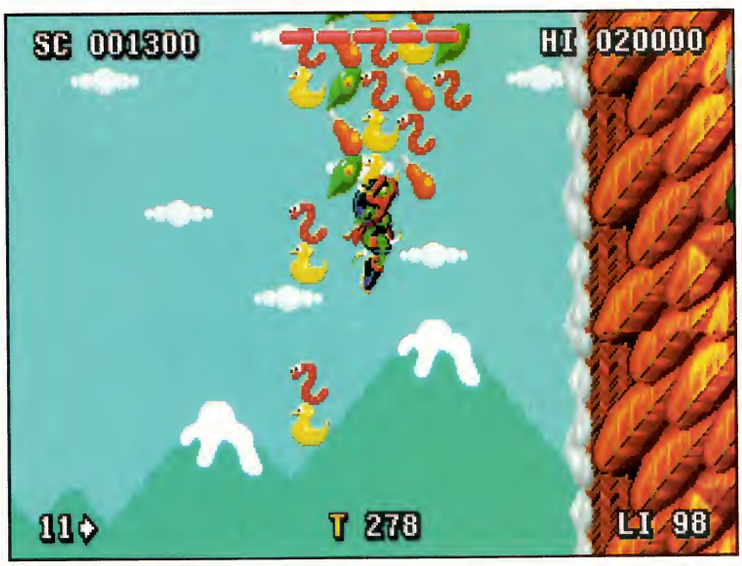
The scenery scrolls in the foreground and the background creates depth to the levels, parallax scrolling as compared to the one dimensional scroll of the original.

Leaping around and eating sweets, more harmless Nth dimension fun

Zool 2 and two Zools. Mirror Zool for double the fire power

New features include extra help from floating friends who home in on enemy fruit and extra features of the land, like leaping on fried eggs to achieve greater height. British Rail eggs I suspect.

Zool 2 looks to be a winner to its fans, graphically better, with more game features and huge levels. We'll have to wait and see what the finished product offers.



Eat sweets and leap feets, or something like that

Lots of grounded aircraft with no pilots, great. But I've got no guns, blast!

DESERT STRIKE

TAKE to the desert skies and strike deep into enemy territory. The Sega MegaDrive and Super Nintendo classic is hovering its way over to the PC. Gremlin are looking after the PC conversion and it looks like it's going to be almost identical to its predecessors.

The president has assigned you on a number of pre-emptive strike missions into the occupied territory of the Gulf. The mad dictator General Kilbaba has occupied a small Arab emirate and is making demands on the world – a very familiar story.

Using your Apache attack chopper you and your co-pilot must fly over enemy territory and complete more than 30 missions over four campaigns.

While under heavy fire you must keep your copter airborne by collecting armour, ammunition and fuel. Strikes must be made against key enemy installations such as nuclear reactors, Scud missile launchers, chemical weapon plants, airfields and radar nests to name but a few.

During the air and ground melees your co-pilot operates a winch to haul escaped P.O.W.s to safety and he leaves all the action to you by auto-targeting the enemy. Wipe out ground troops or heavy artillery with your hellfire missiles, hydra missiles or the trusty nose mounted chain gun.

An enemy army base, lots of tents but no army yet

Sounds like fun and if the conversion lives up to expectation then PC owners can look forward to hours of flying and frying in the desert. Desert Strike looks to be scrolling along quite well and there's even better news for fans of this genre – the sequel, Jungle Strike is due for release soon after.

● *Zool 2 will be available sometime this summer. Desert Strike will be launched in July (priced £39.99), with Jungle Strike following on a couple of months later. All products will be initially launched on floppy disk although CD-Rom versions may follow. Call Gremlin Graphics on 0742 753423 for more information.* PCH

486 PC SCOOP PURCHASE!

AMBRA PCs
MADE BY IBM

SPECIFICATIONS

- **Desktop - Intel 80486SX 25MHz**
  Mini Tower - Intel 80486DX 33MHz
  Intel 80486DX2 66MHz
- **CPUs fully upgradeable through 486 Series and Overdrive processors**
- **Pentium Technology Ready**
- **240Mb IDE Hard Drive**
  Drive capacity can be increased using the MS DOS 6 DoubleSpace
- **14" S-VGA .28mm MPRII (Low Radiation)**
- **4Mb RAM (Max 36Mb Desktop, 32Mb Tower)**
  RAM expandable using industry standard 1Mb, 4Mb and 16Mb 32-bit 72-pin SIMMs
- **8K Integral on Chip Cache RAM**
- **External Cache**
  Desktop - Optional Upgrade to 64K, 128K or 256K
  Mini Tower - 128K Standard (256K Max)

FREE SOFTWARE

MS DOS V6
WINDOWS V3.1
WORKS FOR WINDOWS V3
- WORD PROCESSOR
- SPREADSHEET
- DATABASE
- COMMUNICATIONS
- GRAPHICS

WITH ALL MODELS

- **3½" 1.44Mb Floppy Disk Drive**
- **Expansion Slots**
  Desktop - 3 FREE 16-bit 'ISA' Slots
  Mini Tower - 5 FREE 16-bit 'ISA' Slots
  1 FREE VESA Local Bus Slot
- **Drive Bays**
  Desktop - 1 FREE 5¼" Half Height
  Mini Tower - 3 FREE 2x5¼" Half Height 1x3½"
- **Fast VESA Local Bus Graphics**
  With CIRRUS Logic Windows Accelerator
  Desktop - GD-5424
  Mini Tower - GD-5428
- **Video RAM**
  Desktop - 512K (256 colours at 800x600) upgradeable to 1Mb
  Mini Tower - 1Mb (256 colours at 1024x768)
- **Small Footprint**
  Desktop - 351mm(W) x 107mm(H) x 409mm(D)
  Mini Tower - 169mm(W) x 350mm(H) x 422mm(D)
- **2 Serial Ports, 1 Parallel Port, PS/2 Type Keyboard and Mouse Ports**
- **Ergonomic 102 Key PS/2 Type Keyboard**
- **PS/2 Type Mouse + Mat**
- **1 Year On-Site Warranty**
  8 working hour call out

sprinta II DESKTOP PC

THE BEST PRICES FOR THESE SPEC.

VESA Local Bus Graphics on all models

INCLUDES ON-SITE W'TY WITH IBM

FREE! MS DOS 6 WINDOWS 3.1 WORKS FOR WINDOWS 3

486SX 25MHz
240Mb HD
4Mb RAM
14" S-VGA
.28mm MPRII MONITOR
WINDOWS ACCELERATOR
VESA LOCAL BUS
3 FREE EXPN SLOTS
1 FREE DRIVE BAY

486SX 25MHz
£799
+VAT = £938.83
Ref: IPC 0424 + MON 0024

FREE DELIVERY IN UK MAINLAND

hurdla mT MINI TOWER PC

OverDrive Pentium Ready

VESA Local Bus Graphics on all models

INCLUDES ON-SITE W'TY WITH IBM

FREE! MS DOS 6 WINDOWS 3.1 WORKS FOR WINDOWS 3

486DX/DX2 33/66MHz
240Mb HD
4Mb RAM
14" S-VGA
.28mm MPRII MONITOR
WINDOWS ACCELERATOR
VESA LOCAL BUS
3 FREE EXPN SLOTS
1 FREE DRIVE BAY

486DX 33MHz	486DX2 66MHz
£999	**£1199**
+VAT = £1173.83	+VAT = £1408.83
Ref: IPC 4324 + MON 0024	Ref: IPC 5562 + MON 0024

THE SILICA SERVICE

Before you decide when to buy your new computer, we suggest you think very carefully about WHERE you buy it. Consider what it will be like a few months after you have made your purchase, when you may require additional peripherals or software, or help and advice. And, will the company you buy from contact you with details of new products? At Silica, we ensure that you will have nothing to worry about. With our unrivalled experience and expertise, we can meet our customers' requirements with an understanding which is second to none. Complete and return the coupon now for our latest FREE literature and begin to experience the "Silica Service".

- *FREE OVERNIGHT DELIVERY:* On all hardware orders shipped in the UK mainland (there is a small charge for Saturday delivery).
- *TECHNICAL SUPPORT HELPLINE:* A team of technical experts will be at your service.
- *PRICE MATCH:* We match competitors on a "Same product - Same price" basis.
- *ESTABLISHED 15 YEARS:* We have a proven track record in professional computer sales.
- *PART OF A £50M A YEAR COMPANY:* With over 200 staff - We are solid, reliable and profitable.
- *BUSINESS + EDUCATION + GOVERNMENT:* Volume discounts are available. **Tel: 081-308 0888.**
- *SHOWROOMS:* We have demonstration facilities at all our stores.
- *THE FULL STOCK RANGE:* All of your computer requirements are available from one specialist supplier.
- *FREE CATALOGUES:* Will be mailed to you, with special reduced price offers, as well as details on all software and peripherals.
- *PAYMENT:* We accept most major credit cards, cash, cheque or monthly terms (APR 29.8% - written quotes on request).

SILICA

SILICA IS A DIVISION OF PROMS PLC

09002804/4

MAIL ORDER
PLUS TECHNICAL AND HEAD OFFICE
081-309 1111

1-4 The Mews, Hatherley Road, Sidcup, Kent, DA14 5SS

PLUS BRANCHES AT:

CHELMSFORD **Tel: 0245 355511**
Debenhams (2nd Floor), 27 High St, Chelmsford, Essex, CM1 1DA

CROYDON **Tel: 081-688 4455**
Debenhams (2nd Floor), 11-31 North End, Croydon, Surrey, CR9 1RQ

GLASGOW **Tel: 041-221 0088**
Debenhams (5th Floor), 97 Argyle St, Glasgow, Strathclyde, G2 8AR

IPSWICH **Tel: 0473 221313**
Debenhams (2nd Floor), Westgate Street, Ipswich, IP1 3EH

LONDON
52 Tottenham Court Road **Tel: 071-580 4000**
Debenhams (3rd Floor), 334 Oxford St **Tel: 071-493 3735**
Selfridges (Basement Arena), 369 Oxford St **Tel: 071-629 1234**

MANCHESTER **Tel: 061-832 8666**
Debenhams (3rd Floor), Market Street, Manchester, M60 1TA

SIDCUP **Tel: 081-302 8811**
1-4 The Mews, Hatherley Road, Sidcup, Kent, DA14 4DX

SOUTHEND **Tel: 0702 468039**
Keddies (2nd Floor), High St, Southend-on-Sea, Essex, SS1 1LA

To: Silica, PCHOM-0694-212, 1-4 The Mews, Hatherley Rd, Sidcup, Kent, DA14 4DX

PLEASE SEND INFORMATION ON AMBRA PCs

Mr/Mrs/Miss/Ms: ..... Initials: .....

Surname: .....

Company (if applicable): .....

Address: .....

.....

.....

.....

..... Postcode: .....

Tel (Home): .....

Tel (Work): .....

Which computer(s), if any, do you own?

..... 212A

E&OE - Advertised prices and specifications may change - Please return the coupon for the latest information.

Pacific Strike

Reviewed by Darren Allan

MY FIRST startled observation upon installing this was the fact that it only takes up 18Mb – which is miraculously compact for an Origin game. Certainly this seems a lot tidier than Strike Commander ever was.

This surprise aside, a rather nifty intro sequence sets the scene – a grizzled war vet style voice explains exactly how the Japanese caught the American Navy off guard at Pearl Harbour. This nicely sets the typically corny tone for the game.

If you thought some of the characters in Strike Commander had a certain cardboard cut out motif, prepare for worse. This isn't so much a case of hammy dialogue – they've gone for the entire butcher's shop here.

Your commanding officer is the no-nonsense, grey-haired, salt of the earth sort. With an impossibly square jaw, and a firm but fair attitude, he is one heck of a guy. Flying on your wing is *Jester*, the novice who is keen but wet behind the ears..... and so on. Get the idea?

"...*déjà-vu* is going to be felt by Strike Commander vets"

You are thrown right in at the deep end on starting the game. Scrambling straight into the middle of the Japanese Pearl Harbour ambush, you are forced to defend your base, and then the American ships that are under heavy fire. Control wise, things are nearly identical to Strike Commander in most respects.

Fairly standard keys are used – for instance, T is used to designate targets, and Shift+T cycles through available targets. Also exactly the same as Strike Commander is the manner in which a target is hilighted – with a small white diamond.

In short, more than a certain degree of *déjà-vu* is going to be felt by Strike Commander vets. Sonically, some of the sounds are identical – the whistle that a falling bomb makes is exactly the same noise as heard in the prequel. Music wise, the tunes are different, but similarly paced.

Graphically, the landscape is crafted in the same bitmapped style. If you were a big fan of Strike Commander, you will be pleased by these similarities. Where the big improvements have been made, however, is in the actual look of the in-game objects, such as the planes and ships.

The various aircraft you can fly, eight in total, all look different to a certain extent, not only on the outside but in the cockpit design as well. Visually, the planes are a dream to look at, highly detailed and generally splendid. You can even clearly make out the rear guns, and the pilot and gunner.

Flying a low strafing run over a ship gives a breathtaking view – each vessel has a fully detailed super-structure, with every single gun turret shown. This level of visualisation really does add an extra depth.

As an all-American hero, the missions you fly are a varied bunch. Offensive sorties are mixed liberally with the more defensive ones, but as in all Origin games your personal level of success in the various combats determines the overall progress of the conflict. Fly badly, and the squadron will soon have their backs to the wall.

Each mission is shown on the Navigation map as a series of waypoints, just as in Strike Commander – although this mission system goes as far back as Wing Commander.

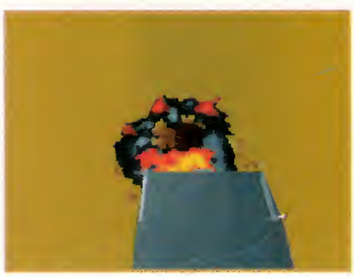
In the midst of all these replicated controls, one major new feature has been added –an enemy lock key, which when pressed automatically turns the pilot's head to face the enemy. This means you

STRIKE ONE TO THE YANKEES

YOUR first mission after the Pearl Harbour fiasco, should you decide to accept it, is to hit a minor Japanese airstrip along with three of your buddies. All is not how it seems, however.....

An airfield on the island of Taroa is the scheduled place for a heavy dose of revenge

Approaching the airstrip from a height, I prepare to deliver my bombs upon the unwitting Orientals



Argh! Missed by inches. How very annoying. Unfortunately, these bombs aren't the guided variety

Hang on – those aren't the seaplanes that are meant to be here. They're Japanese bombers

We missed with the main payload. Time for a low level strafing run to finish off the hangars

Your highly intelligent, patriotic wingman yells periodic insults at the Japanese

can instantly locate your adversary, instead of manually having to search for him with the padlock view, which is activated by holding down the second joystick button.

But the real crux of the matter has to be how the game really plays and exactly how Pacific Strike has improved on Strike Commander. There can be no doubting that some improvement is certainly there.

Pacific Strike lets you fly a selection of planes, and even draw up the missions later in the game when you are promoted to a senior enough rank. All this certainly adds an extra dimension to the gameplay.

Visually and sonically Pacific is a superior experience, without a doubt. It is also a safe bet to say that it is more playable, simply owing to the type of aerial combat simulated.

Strike Commander could be very tedious indeed at times. Ground attack missions sometimes involved a painstaking degree of accuracy, and with the ever-present threat of instant death by at the hands of a SAM launcher if you ever strayed above 1,000 feet.

This has all been corrected, as Pacific boasts a more entertaining *seat of the pants* style of flying. You still have to contend with fire from the ground – but just basic flak. Hi-tech missiles are nowhere to be seen, and the air is filled only with the deadly spray from .50 calibre machine guns.

Although there are these positive facets to be considered, not everything is fully up to scratch. One of the major problems with Strike Commander was the seizures it caused any 4Mb machine.

If you can't spare 2Mb for a hefty SmartDrive cache, the action could freeze for five seconds every now and then.

Pacific strike managed a 12-second pause on my 486DX – I timed it. Even though I only have 4Mb, this is still a somewhat frightening lapse.

Generally, the graphics can be a little jerky, which can be annoying when you are trying to line up on the tail of a Japanese fighter. These unsolved problems prevent this Origin offering from being a classic, but this isn't to say that it isn't a darn good blast. One thing's for sure – if you really liked Strike Commander, this is unmissable. PCH

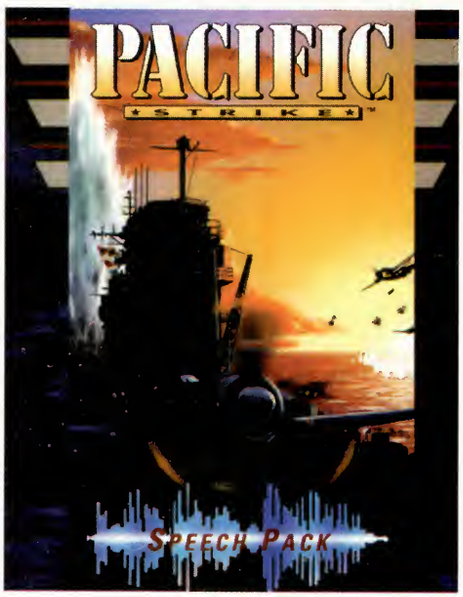
The start of the game – scramble under fire from the Japanese

The first plane you get to fly is the trusty Wildcat

This bandit's Yank terrorising days are but seconds from over

Making a low pass over the harbour, early on in the game

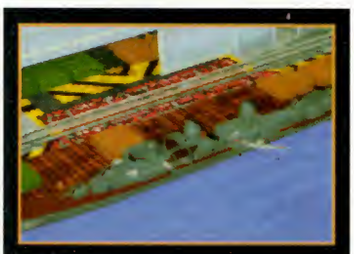
FREEDOM OF SPEECH?



Surprise, surprise – the speech pack is £19.99 more

IF ONLY this was the case – the speaking parts here are going to cost you £19.99 extra. 6Mb of speech is added, but it doesn't seem like it. In-flight lines such as your wingman's comments, and the Japanese screams of fury are fully digitised. But why weren't they included in the first place?

I don't think I am alone in condemning Origin's habit of releasing these speech add-ons at this price. In short, this amount of money for the odd bit of dialogue is a complete rip off.



PACIFIC STRIKE

Publisher	Electronic Arts
Telephone	0753 549442
Price	£44.99
Format	Floppy

REQUIREMENTS

PC	486 33MHz
Total memory	4Mb
Sound support	AdLib, SoundBlaster, Roland, General Midi
Control	Keyboard, Joystick
Hard drive	18Mb

ALTERNATIVELY

Strike Commander	
	Electronic Arts
	Reviewed Jun 93
Verdict 90%	Not as sharp as Pacific, but obviously better suited to those who prefer modern warfare
F14 Fleet Defender	
	Microprose
	Reviewed this issue
Verdict 85%	A far more serious effort for the true flight sim buff

RATINGS

GRAPHICS	★★★★★½
SOUND	★★★★★½
LONGEVITY	★★★★½★
GAMEPLAY	★★★★★½

PC home VERDICT

"This is one machine intensive game, make no mistake but, nevertheless, it contains a wealth of highly playable material"

86%

CLIP ART

FROM CYBERNETIC™ IMAGINATION

COMPATIBLE WITH ALL THESE APPLICATIONS:-

Windows Paintbrush, Pagemaker, Ventura, Pageplus, MS Publisher, Timeworks, Jetsetter, Avagio, Deskpress, Powerpoint, MS Word, Wordperfect, Ami Pro, Corel Draw, Micrografx Designer, DesignWorks, Arts & Letters, Neopaint, Envision Publisher and any other application capable of importing PCX format graphics. If unsure please phone us.

EACH COMPLETE SUBJECT comes on ONE disk and contains a minimum of 30 HIGH QUALITY PCX FORMAT Images, created in the UK by our team of graphic designers, ready for you to use freely in your own documents.

SUMMER HOLIDAYS

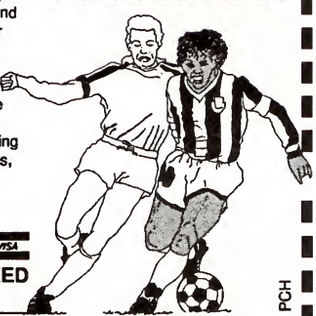
☐ **SUMMER HOLIDAYS** - Sun, sea, sand, and holiday fun

SPECIAL OFFER
Order 10 or more disks and get Summer Holidays FREE!
(offer closes 31 Aug 94)

☐ **GLOBAL TRAVEL** - Famous landmarks around the World
☐ **FLAGS** - Flags of European and other major countries
☐ **CAPITAL LETTERS** - Various A to Z sets for the start of paragraphs
☐ **FOOD & DRINK** - Edible images ideal for Bar/Restaurant menus
☐ **SPECIAL OCCASIONS** - Greetings and images for all those special days
☐ **SOCCER** - Highlights of the game on and off the pitch
☐ **BARGAIN BASEMENT** - Ready to use bargain messages for sales, etc
☐ **XMAS** - Festive images for the yuletide season

☐ **MAPS** - Outlines of Countries, Continents, Globes, and World maps
☐ **SIGNS & SYMBOLS** - From no smoking signs to astrological symbols
☐ **FRAMES & BORDERS** - Victorian, Art Noveau, and Modern borders
☐ **RELIGION** - Events from Christian calendar, religious symbols, & Saints
☐ **WEDDINGS** - Brides, grooms, bells, bows, flowers, cakes, and limousines
☐ **DANCE** - Ballroom, Disco, Ballet, and Modern Dance
☐ **MUSIC** - Musical illustrations from classical to pop
☐ **TENNIS** - Bring the action of the court to life with these illustrations

☐ **WILD ANIMALS** - A selection of wild animals from aligators to zebras
☐ **FARM ANIMALS & PETS** - domesticated animals from pussies to pigs
☐ **TRANSPORT** - Trains, Boats, and Planes; travel by land, sea, and air
☐ **SPORT** - Illustrations of most popular summer and winter sports
☐ **BUSINESS** - Office images from staplers to executives on the move
☐ **PEOPLE** - Adults and children eating, drinking, working, and playing
☐ **EASTER** - Eggs, chicks, bunnies, religious, and spring time images



USE THIS ORDER FORM NOW OR PHONE 0923 252196 VISA

1-5 disks £3.50 each
6-10 disks £2.99 each
11-15 disks £2.85 each
16+ disks £2.75 each

ALL PRICES ARE FULLY INCLUSIVE THE PRICE YOU SEE IS ALL YOU PAY

PLEASE SEND ME THE CLIP ART SUBJECTS TICKED ON ☐3.5" OR ☐5.25" DISKS FOR (AMOUNT) £_____

PAYMENT METHOD: ☐CHEQUE / ☐ACCESS / ☐VISA

CRD NO ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐

EXPIRY ☐☐/☐☐ SIGNATURE _____

NAME _____

STREET _____

TOWN _____

COUNTY _____ POSTCODE _____

PCH

CYBERNETIC IMAGINATION SYSTEMS LTD · 21A CHURCH ROAD · WATFORD · HERTS · WD1 3PY · PHONE 0923 252196

ONLY THE BEST

COMPUTER SOFTWARE

7 CLEEVE WOOD ROAD, DOWNEND, BRISTOL. BS16 2SF.

TEL: 0272 401315/401316

PERSONAL CALLERS BY APPOINTMENT

LOOK! NO VAT TO ADD NO CREDIT CARD SURCHARGE

THE BEST VALUE AND THE BEST SERVICE

Access VISA

MON-FRI 10am-7pm SAT 10am-5pm SUN TIMES VARY. ANSWERPHONE AT ALL OTHER TIMES.
All prices include VAT. UK postage add £1.00 per item. Prices subject to change.
Access and Visa accepted. Please allow 7 days for cheques.

OTB CODE OF PRACTICE
1. CREDIT CARDS ARE NOT CHARGED UNTIL GOODS ARE DESPATCHED.
2. THE CUSTOMER IS ALWAYS INFORMED WHETHER GOODS ARE IN STOCK OR NOT.

PC TITLES

A320 AIRBUS US	£28.99
ACES PACIFIC + MISSIONS	£28.99
ACES OF THE DEEP	£29.99
ACES OVER EUROPE	£27.99
AIR BUCKS V1.2	£21.99
AIR FORCE COMMANDER	£21.99
AIR COMBAT CLASSICS	£28.99
ALIEN BREED	£18.99
ALONE IN THE DARK 2	£28.99
ALONE IN THE DARK + JACK	£15.99
ARCHON ULTRA	£22.99
ARMOURED FIST	£CALL
ARMOUR GEDDON	£15.99
AIR TRANSPORT PILOT	£23.99
ANIMATION WORKSHOP	£CALL
A-TRAIN	£15.99
AV8B HARRIER	£25.99
AWARD WINNERS II	£22.99
B17 + DOGFIGHT	£35.99
BATTLE ISLE 2	£CALL
BATTLE ISLE 93	£18.99
BATTLES OF THE SOUTH PACIFIC	£27.99
BEAUTY AND THE BEAST	£18.99
BENEATH A STEEL SKY	£24.99
BETRAYAL AT KRONDOR	£27.99
BLOODNET	£27.99
BLUE AND THE GREY	£24.99
BODY BLOWS	£18.99
BREAKLINE	£16.99
BRUTAL SPORTS FOOTBALL	£18.99
CAMPAIGN 2	£24.99
CANNON FODDER	£23.99
CAR & DRIVER	£24.99
CARRIERS AT WAR 2	£27.99
CHAOS ENGINE	£CALL
CHESSMASTER 3000	£23.99
CHESSMASTER 4000 TURBO	£23.99
CIVILIZATION	£24.99
CIVILIZATION WINDOWS	£27.99
CLASH OF STEEL	£23.99
CLUB MANAGER	£23.99
COMANCHE OVER THE EDGE	£16.99
COMANCHE MAXIMUM OVERKILL	£22.99
CORRIDOR 7	£CALL
DAEMONSGATE	£20.99
DARKSUN SHATTERED LANDS	£28.99
DAY OF THE TENTACLE	£26.99
DELTA V	£29.99
DETROIT	£24.99
DGENERATION-WINDOWS	£15.99
DIGGERS	£24.99
DOS 6.2 UPGRADE	£55.00
DUNE 2	£22.99
DUNGEON HACK	£23.99
ELDAR SCROLLS ARENA	£26.99
ELITE 2	£21.99
EMPIRE DELUXE	£27.99
EUROPEAN CHAMPIONS	£19.99
EVASIVE ACTION	£22.99
EVEN MORE INCREDIBLE MACHINE	£24.99
EXCELLENT GAMES	£25.99
F1	£18.99
F-14 FLEET DEFENDER	£27.99
FALCON 3.0 +F15 STRIKE EAGLE III	£35.99
FALCON 3.0 MIG 29 ADD ON	£16.99
FANTASY EMPIRES	£22.99
FIRE AND ICE	£19.99
FLASHBACK	£23.99
FLIGHT SIMULATOR 5	£29.99
FRONT PAGE SPORTS FOOT PRO	£24.99
FS5 NEW YORK SCENERY	£15.99
FS5 PARIS SCENERY	£15.99
FS5 SAN FRANCISCO SCENERY	£24.99
FS5 WASHINGTON SCENERY	£24.99
FLIGHT SIM TOOLKIT	£30.99
FORMULA 1 GRAND PRIX	£27.99
FREDDY PHARKAS	£24.99
FURY OF THE FURRIES	£21.99
GABRIEL KNIGHT	£24.99
GENESIA	£21.99
GLOBAL DOMINATION	£24.99
GOAL	£19.99
GOBLINS 3	£24.99
GREAT NAVAL BATTLES	£24.99
GREAT NAVAL BATTLES 2	£24.99
GUNSHIP 2000	£24.99
HARRIER JUMPJET + TASKFORCE	£35.99
HEIRS TO THE THRONE	£27.99
HIGH COMMAND	£27.99
HIRED GUNS	£24.99
HISTORY LINE	£24.99
INDIANA JONES FATE OF ATLANTIS	£23.99
IN EXTREMIS	£23.99
INFERNO	£CALL
INCA 2	£30.99
INCREDIBLE TOONS	£24.99
INDY CAR RACING	£27.99
INNOCENT UNTIL CAUGHT	£24.99
JURASSIC PARK	£22.99
KASPAROV'S GAMBIT	£27.99
KINGMAKER	£23.99
KINGS QUEST 6	£27.99
LANDS OF LORE	£22.99
LEGACY + RETURN OF PHANTOM	£35.99
LEGEND OF KYRANDIA 2 HAND OF FATE	£23.99
LEISURE SUIT LARRY 6	£24.99
LEMMINGS 2 THE TRIBES	£24.99
LEMMINGS DOUBLE PACK	£23.99
LINKS 386 PRO	£27.99
LINKS 386 PRO COURSES:	£15.99
LITIL DIVIL	£24.99
LORDS OF POWER	£25.99
LOST IN TIME	£26.99
LOST VIKINGS	£21.99
LOTUS ULTIMATE CHALLENGE	£21.99
MASTERS OF ORION	£27.99
MAVIS BEACON TYPING V2	£23.99
MERCHANT PRINCE	£27.99
MICRO MACHINES	£19.99
MICROSOFT ARCADE	£15.99
MICROSOFT CREATIVE WRITER	£32.99
MICROSOFT FINE ARTIST	£32.99
MICROSOFT GOLF	£29.99
MIGHT & MAGIC 4	£30.99
MIGHT & MAGIC 5	£30.99
MONKEY ISLAND 2	£21.99
MORTAL KOMBAT	£19.99
NFL COACHES CLUB FOOTBALL	£22.99
NHL ICE HOCKEY	£27.99
NICK FALDO GOLF	£24.99
NOMAD	£19.99
OMAR SHARIF'S BRIDGE	£24.99
OVERDRIVE	£19.99
PACIFIC STRIKE	£29.99
PACIFIC WAR	£25.99
PATRICIAN	£21.99
PATRIOT	£27.99
PERFECT GENERAL TRILOGY	£27.99
PINBALL DREAMS	£22.99
PINBALL FANTASIES	£23.99
POLICE QUEST 4	£24.99
POPULOUS 2	£25.99
PREMIER MANAGER 2	£21.99
PRINCE OF PERSIA 2	£24.99
PRIVATEER	£29.99
PRIVATEER RIGHTEOUS FIRE	£13.99
PRIVATEER SAP	£13.99
QUATRE POLE	£23.99
QUEST FOR GLORY 4	£24.99
RAILROAD TYCOON	£13.99
RAILROAD TYCOON DELUXE	£24.99
RALLY	£22.99
RAVENLOFT	£27.99
RED BARRON + MISSION DISK	£28.99
RED HELL	£CALL
RETURN TO ZORK	£28.99
REUNION	£25.99
RINGWORLD	£24.99
RISE OF THE ROBOTS	£CALL
SAM AND MAX	£24.99
SCRABBLE	£20.49
SETTLERS	£CALL
SHADOW OF THE COMET	£24.99
SHADOWCASTER	£27.99
SHERLOCK HOLMES' LOST FILES	£24.99
SIM CITY 2000	£22.99
SIM FARM	£21.99
SIMON THE SORCERER	£24.99
SINK OR SWIM	£17.99
SPACE HULK	£27.99
SPEED BALL 2	£12.99
SSN-21 SEAWOLF	£27.99
STARLORDS	£27.99
STAR TREK 2 - JUDGEMENT RITES	£27.99
STONEKEEP	£CALL
STREETFIGHTER 2	£18.99
STRIKE COMMANDER	£29.99
STRIKE COMMANDER SAP	£13.99
STRIKE COMMANDER TACTICAL OPS	£13.99
STRONGHOLD	£21.99
STUNT ISLAND	£28.99
SUBWAR 2050	£27.99
SVGA HARRIER	£27.99
SYNDICATE	£27.99
SYNDICATE DATA DISK	£15.99
TERMINATOR RAMPAGE	£23.99
TFX	£27.99
THEME PARK	£CALL
TORNADO	£27.99
TORNADO OP DESERT STORM	£15.99
UFO ENEMY UNKNOWN	£27.99
ULTIMA 7	£24.99
ULTIMA 7 PT2 SERPENT ISLE	£27.99
ULTIMA 8 PAGAN	£29.99
ULTIMA 8 PAGAN SAP	£15.99
ULTIMA UNDERWORLD	£24.99
ULTIMA UNDERWORLD 2	£24.99
UNLIMITED ADVENTURES	£22.99
UNNECESSARY ROUGHNESS	£24.99
V FOR VICTORY 3	£28.99
V FOR VICTORY 4	£24.99
VICTORY AT SEA	£CALL
WAR IN RUSSIA G GRIGSBY	£27.99
WARLORDS 2	£27.99
WEREWOLF	£CALL
WIZARD	£27.99
WOLFSTEIN 3D	£14.99
XANTH	£24.99
X-WING	£26.99
X-WING IMPERIAL PURSUIT	£14.99
X-WING B-WING	£14.99

CD ROM TITLES

7th GUEST	£31.99
7th GUEST + DOOM	£36.99
10th ANNIVERSARY	£31.99
ACTION 16 CD	£22.99
ADVANTAGE TENNIS	£18.99
ALONE IN DARK + JACK IN DARK	£16.99
AIR TRANSPORT PILOT	£55.00
B17 + SILENT SERVICE II	£28.99
BATTLE ISLE 2	£30.99
BENEATH A STEEL SKY	£CALL
BLOODNET	£30.99
BUZZ	£CALL
CASTLES 2 ENHANCED	£30.99
CHALLENGE PACK	£25.99
CHESSMASTER 3000 PRO	£34.99
COMMANCHE MAXIMUM OVERKILL	£30.99
CONSPIRACY	£28.99
CRITICAL PATH	£30.99
CYBERACE	£CALL
DARKSEED	£CALL
DARKSUN SHATTERED LANDS	£27.99
DAY OF THE TENTICLE	£27.99
DIGGERS	£CALL
DRACULAR UNLEASHED	£31.99
DRAGONSPHERE	£25.99
DUNE	£33.99
DUNGEON HACK	£24.99
ELITE 2	£25.99
ERIC THE UNREADY	£22.99
EYE BEHOLDER 3	£25.99
F15 III STRIKE EAGLE	£28.99
F117A + F15II	£28.99
FANTASY EMPIRES	£23.99
FLIGHT SIM TOOL KIT	£31.99
GABRIEL KNIGHT	£28.99
GOBLINS 3	£CALL
GOLDEN 7 COMPILATION	£31.99
GREAT NAVAL BATTLES 2	£27.99
GREAT NAVAL BATTLES 2	£25.99
HELL CAB	£CALL
HISTORY LINE	£25.99
HORDE	£38.99
INCA 2	£34.99
INDIANA JONES FATE OF ATLANTIS	£27.99
IRON HELIX	£25.99
JOURNEYMAN PROJECT	£25.99
JURASSIC PARK	£25.99
JUTLAND	£35.99
KINGS QUEST 6	£29.99
LABYRINTH OF TIME	£25.99
LANDS OF LORE	£27.99
LASER SQUAD	£14.99
LAURA BOW 2	£27.99
LAWNMOWER MAN	£34.99
LEADERBOARD COLLECTION	£24.99
LEGEND OF KYRANDIA	£28.99
LEISURE SUIT LARRY 6	£28.99
LEMMINGS DOUBLE PACK	£25.99
LINKS COLLECTION	£32.99
LOOM	£27.99
LOST IN TIME 1 & 2	£30.99
MAD DOG MCCREE	£29.99
MAN ENOUGH	£CALL
MAVIS BEACON TYPING V2	£28.99
MEGARACE	£24.99
MICROCOSM	£33.99
MICROSOFT ART GALLERY	£39.99
MICROSOFT BEETHOVEN	£39.99
MICROSOFT CINEMANIA '94	£39.99
MICROSOFT DINOSAURS	£39.99
MICROSOFT ENCARTA '94	£79.99
MICROSOFT GOLF	£31.99
MICROSOFT MOZART	£39.99
MICROSOFT MUSICAL INSTRUMENTS	£39.99
MONKEY ISLAND	£27.99
MYST	£37.99
NOMAD	£20.99
OUTPOST	£31.99
PATRICIAN	£CALL
POLICE QUEST 4	£28.99
PROTOSTAR	£25.99
QUEST FOR GLORY 4	£28.99
RAVENLOFT	£29.99
REBEL ASSAULT	£28.99
RED SHIFT	£CALL
RETURN OF THE PHANTOM	£28.99
RETURN TO ZORK	£31.99
RINGWORLD	£25.99
RISE OF THE ROBOTS	£CALL
SAM & MAX	£29.99
SHADOWCASTER	£CALL
SHADOWORLDS	£14.99
SHERLOCK HOLMES 1	£31.99
SHERLOCK HOLMES 2	£31.99
SHERLOCK HOLMES 3	£31.99
SPELLCASTING TRIPLE PACK	£25.99
STAR TREK 25th ANNIVERSARY	£CALL
STONEKEEP	£CALL
STRIKE COMMANDER	£32.99
SVGA HARRIER	£29.99
TFX	£31.99
TONY LA RUSSA 2	£29.99
TORNADO	£30.99
UFO ENEMY UNKNOWN	£28.99
ULTIMA SERIES 1-6	£36.99
ULTIMA 7	£30.99
ULTIMA 8 PAGAN	£36.99
ULTIMA UNDERWORLD 1+2	£30.99
ULTIMA UNDERWORLD + WINGCOM2	£30.99
WING COMMANDER 2 DELUXE	£30.99
WOLFPACK	£22.99
WORLD OF XEEN	£33.99

SPECIAL OFFERS

Hardware

PANASONIC 562B CD-ROM DRIVE (£144.67 + VAT)	£169.99
ZF STEREO SPEAKERS	£32.00
SOUNDBLASTER PRO SOUND CARD	£96.00

CD TITLES

DAY OF THE TENTICLE	£27.99
INDIANA JONES FATE OF ATLANTIS	£27.99
LOOM	£27.99
MEGARACE	£24.99
MICROSOFT ENCARTA '94	£79.99
REBEL ASSAULT	£28.99

PC TITLES

COMANCHE MAXIMUM OVERKILL	£22.99
FRONTIER ELITE 2	£21.99
SIM CITY 2000	£22.99
LEMMINGS 2 THE TRIBES	£14.99

The mole man in the Tunnel of Love leads a real couch potato existence

Some of the sub-games, such as this Wak-a-rat machine, are superb fun

Sam & Max CD

Reviewed by Darren Allan

WE'VE waited a long time for this, but it has finally arrived – the full talkie version of Sam & Max. As you play late into the night, you will no longer be forced to strain tired and bleary eyes with text. Just sit back and listen.

For the benefit of those who aren't familiar with the infamous duo, Sam and Max are two freelance *detectives*. Sam is a dog, and Max a rabbit with an extremely sick sense of humour.

This is a LucasArts graphic adventure, and things have certainly moved on considerably since the likes of Monkey Island. Day of the Tentacle saw a huge leap in the quality of the visuals, and Sam & Max sustains this, with main characters 10 times the size of Guybrush Threepwood.

Sam & Max also features a much improved interface. Gone are the little text bits at the bottom of the screen, replaced by a much more swish intelligent pointer system. Clicking the right mouse button cycles through the various functions you can perform – talk to, pick up, use and examine.

For example, to examine the contents of a room you click the right button until the pointer changes into an eye. As soon as the eye is moved over an examinable object, it opens to show the fact. Everything is kept very simple and as such the game is never any more frustrating than it should be.

If you have heard the speech in Day of the Tentacle, prepare for some improvements. Max's witty lines have so much more impact when spoken and the quality of the two main protagonists' speech is simply superb.

Nearly all the speaking parts are well executed. One guy, a neurotic fisherman, is a Woody Allen clone and his voice has been done by a pretty good impersonator. A particularly foul mouthed chap is to be found on top of the world's largest ball of twine – don't ask – and his oath orientated antics are far funnier when vocalised, complete with bleeps in appropriate places.

In the Hall of Oddities some very strange creatures are to be found

Talking is done with icons – in this case I am asking for the bathroom

Max can be more than a little hyperactive at times

Playing 'gator golf with fish instead of balls. Yep, this game is weird

The wet twit behind the counter at the burger bar really does sound like a complete and total prat.

In general, the talkie element really does enhance the experience. Sound effects are of a similarly high standard, as is the music. All in all, this CD-Rom is one heck of a sonic experience.

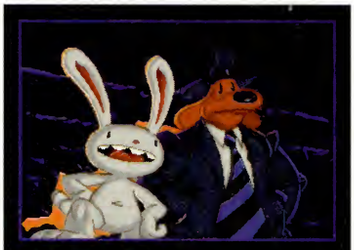
Sam & Max is always a joy to play. Puzzle wise it is staged well, with clever lateral thinking required in some places. However, it doesn't usually take too much in the way of perseverance to overcome the obstacles.

In terms of length, it is bigger than Day of the Tentacle, which is definitely good news. It takes some finishing, but luckily for you those worldly wise folk at LucasArts have decided to include a hint book with the CD-Rom package.

Whether this is a good thing or not really depends on how much will power you possess, because it can be very tempting to keep peeking at the hints when you get so much as slightly stuck. Still, if you have paid for the product and want to spoil the game for yourself, fair enough.

Undoubtedly, though, this is useful for when you are genuinely at your proverbial wits' end. In short, the Sam & Max CD-Rom turns a darned fine game into an even better one.

The speech really does push up the quality of the jokes, turning them from rib ticklers into sternum grinders – or something like that. PCH



SAM & MAX CD

Publisher	US Gold
Telephone	021-625 3388
Price	£45.99
Format	CD-Rom

REQUIREMENTS

PC	386 33MHz
Total memory	4Mb
Sound support	SoundBlaster, PAS, AdLib, Roland
Control	Keyboard, mouse, joystick
Hard drive	40K per saved game

ALTERNATIVELY

Day of the Tentacle	US Gold Reviewed Sept 93
Verdict 85%	Time travelling antics aplenty can be found in Sam & Max's predecessor
Dragonsphere	Microprose Reviewed May 94
Verdict 81%	For those who prefer a more serious slant to their point and clicking

RATINGS

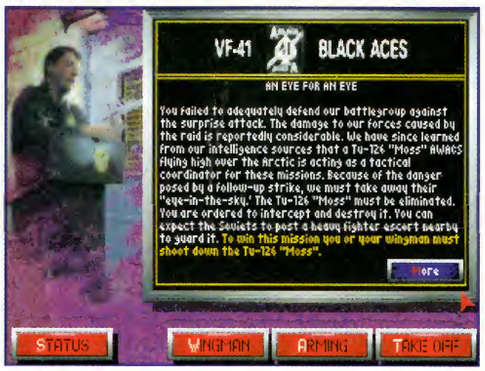
GRAPHICS	★★★★★★
SOUND	★★★★★★
LONGEVITY	★★★★★★
GAMEPLAY	★★★★★★

PC home VERDICT

"With the full speech enhancement, this really comes into its own. An extremely playable game gains a new lease of life. Superb"

90%

Weapon Selection – Sidewinder, Phoenix or Sparrow missiles going cheap!



Mission briefings leave you in no doubt that great things are expected of you

Coming in to land at the base carrier. No easy task on the harder difficulty settings

FLYING a jet fighter isn't as glamorous as it's made out to be, you know. Getting to grips with the technical side of piloting may not sound particularly thrilling, but it is an exceptionally vital aspect of modern air combat.

With missiles these days possessing a range that outdistances visual sighting by many factors, epic Top Gun style action is far from prevalent.

Fleet Defender is a simulation of colossal proportions which provides the more experienced flight sim buff with a comprehensive foray into the world of the F14.

This game is a real heavyweight and certainly not for the faint hearted. Microsoft's imaginatively titled Flight Simulator proved that hyper realism can sell, and it is this area of the market that this game targets in no uncertain terms.

Even the name has to be taken seriously. Fleet Defender is not just a title – this is exactly what you do. Entirely carrier based, all the missions in the game revolve around air-to-air combat, and most take place over a deliciously texture mapped ocean. Just ploughing through the initial option list gives a feel for the way Fleet Defender has been crafted.

For just a quick one-off mission choices include time of day – or night, weather, enemy formation and skill level, encounter altitude and a selection of 22 different planes for your adversary to fly.

That's just one screen. Other adjustable elements include radar authenticity level, realism of landings, the variable size of the base carrier. Even little details such as being able to select the squadron you fly under – the Pukin' Dogs being one of the more memorable squadron nicknames.

The presentation is top notch and only surpassed by the quality of the in-game visuals. Just flicking through some of the external views reveals graphical detail of awesome quality. Forget about the plane graphics in Strike Commander – they just aren't a patch on these.

The Hawkeye early warning aircraft – your eye in the sky

Push the joystick forward and the ailerons tilt as they would in real life. Not only is the landing gear shown, but the speed brake, swing wings and the arrestor hook – used to *catch the wire* on carrier landings – are also displayed in fully animated action.

The F14 is fully detailed in beautifully shaded 3-D, and with all these genuine touches it looks about as close to the real thing as is possible on a home computer.

However, the plane graphics are not the only high quality visuals. For instance, flying through fog is a real pilot's nightmare, as you can imagine, and flying in the dark you can just make out the red and green formation lights on your wingmen's F14s.

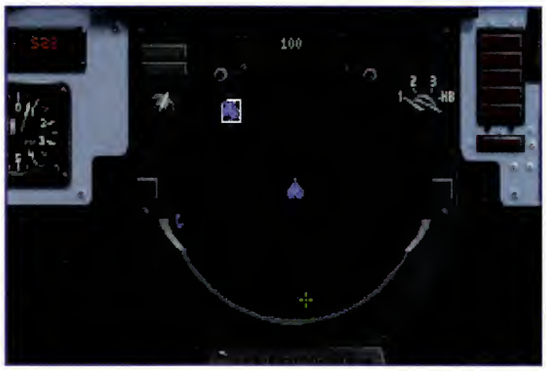
Indeed, all the weather conditions are moodily atmospheric, and more than somewhat hazardous in some cases. Hit a layer of cloud in a dogfight, and you'll know about it – where's he gone? Argh!

FLEET DEFENDER

Reviewed by Darren Allan

POSING IN MY F14 MEAN MACHINE

Various different flying conditions have to be dealt with in Fleet Defender. During the day stormy weather can make visibility difficult and at night the radar and HUD are your eyes. However, even when the weather is fine, cloud layers can be a problem.



Revenge of the little green blips. Radar operation is complicated, with two separate displays to master

Consider it for a minute, though, and it is understandable why the programming team tried to get so much visual detail packed in.

Quite simply, a great deal of the action is set over the sea and as such this keeps the landscape detail level down below that of a more conventional flight sim. Concentrated work on the main features of the game, namely the planes and ships, has produced a finely honed and highly polished looking product. Just look at some of the screen shots and this is fairly evident.

A Soviet Destroyer. The ships are nicely detailed

Three main theatres of war are simulated. A set of training scenarios is provided, based at the naval air academy in Oceana, Virginia. Both main campaigns are based around the concept of a mid 80s superpower clash.

Libya, and the political hotbed of the mediterranean in general is the setting for one campaign. Further missions are located in the cold and murky waters of the North Cape, near Norway.

Training is most definitely required before either of the campaigns are embarked upon. Jump in at the deep end and you will most likely not surface. Practice against enemy fighters is obviously important and a series of engagements is available, ranging from easy to hard.

Hard dogfights are those in which you begin with a positional disadvantage. In other words, the enemy starts directly behind you, his trigger finger hovering over the launch missile button.

Just as important, however, is the further training section specifically allocated to the radar. This may sound over the top, but radar operation really is an art. Okay, so most people who are clued up on flight sims will know what IFF stands for – Identification Friend or Foe. But what about radar search modes such as RNS or STT?

Although the instructions explain these features, you get the idea. With two different displays and a host of knobs and switches, the radar is almost a simulation in itself.

Getting a lock on an enemy aircraft is not the easiest thing in the world to achieve. A multitude of controls are at the disposal of the radar operator. From slow, wide radar sweeps to concentrated blasts directed in particular directions, frustration can set in as a full radar search can be quite a slow process. Practice makes perfect, though, as they say.

Once familiarisation with the radar system and air-to-air combat is out of the way, either of the main campaigns can be attempted. Essentially, each campaign is divided up into three major scenarios, which can be loosely labelled as the introductory, central and climactic stages. Each of these scenarios consists of a series of linked missions, which can be different each time you play.

Depending on how you perform, the missions you fly will vary from offensive strikes to defensive patrols. Of course, your role is primarily a defensive one, and the F14 is only an escort plane on attack sorties. However, the outcome of the conflict mirrors your personal success or failure as a fighter pilot.

Firing a Sidewinder at a Mig-29. Note the missile's huge smoke trail

Boom! My missile hits home – splash one Mig

Fly like a true ace and you will soon have the Russians on the ropes. Poor performances, however, put your base carrier in jeopardy, and continued failure means curtains for your squadron. Mission briefs are relatively varied, and the attack element adds a needed variety to the proceedings, as you are not constantly on the defensive.

Accuracy is prevalent in the F14's flight mechanics. The plane moves with a good feeling of realism. Make an error in a turn, or bank for too long and you will start to drop rapidly in both speed and altitude.

From target acquisition on the radar, to Hi-G combat and precision landings, Fleet Defender manages to create and maintain a more than effective atmosphere.

This authentic edge has its downside however – the difficulty level. Not only is the radar tricky to get to grips with, but in combat if an enemy manages to get a fix on your tail then you're history. Heavy emphasis is placed on positional considerations, and while this is all perfectly realistic, it can feel a little intimidating at times.

Design wise, Fleet Defender is very well thought out, with the program limiting itself in certain areas of graphics and gameplay in the cause of a much more concentrated quality.

Presentation is superb, with tons of neat little touches throughout. Visually the whole experience is rather splendid.

However, the difficulty level is really the crux of the matter. What is simulated is concentrated and overwhelming – quite possibly too overwhelming for the average gamer to want to bother with it.

Time and effort really need to be expended in a big way to get the most out of Fleet Defender and anybody lacking the drive to get to grips with the game will obviously end up disappointed.

Those that cherish an in depth experience, however, will more than likely be blown away by this quality offering. PCH

FLEET DEFENDER

Publisher	Microprose
Telephone	0454 326532
Price	£44.99
Format	Floppy

REQUIREMENTS

PC	386 33MHz
Total memory	4Mb
Sound support	AdLib, Roland, SoundBlaster, PAS
Control	Joystick and mouse
Hard drive	12Mb

ALTERNATIVELY

Evasive Action	Mindscape Reviewed Apr 94
Verdict 80%	The antithesis of FD, and perfect for those who prefer their action fast and furious
TFX	Ocean Reviewed Feb 94
Verdict 91%	Still the proverbial king of the flight sims and a slightly more balanced experience than FD

RATINGS

GRAPHICS	★★★★★★
SOUND	★★★★★★
LONGEVITY	★★★★★★
GAMEPLAY	★★★★★★

PC home VERDICT

"A heavy going sim, but nevertheless a concentrated quality effort that will delight serious gamers"

85%

MYST

Reviewed by Pete Hawley

A Flash Gordon reject sits on the podium waiting to be fired up

THE Myst which gives its name to this game, is a mysterious book that you pick up and read one day out of curiosity. This fascinating tome is filled with glorious descriptions of a strange island world.

As you reach the final pages the real world fades to black and you suddenly find yourself on the very island you have just been reading about.

The adventure begins on the dock of the island – you know nothing and have no idea where to go or what surprises lie in store. Simply clicking ahead or to the left or right moves you on to the next location.

The island's library is the essential place to visit. Most of the books have been fire damaged but among the ashes lie a few priceless sources of information including diaries and logs about people's stays on the island, plus diagrams and sketches detailing the uses and workings of various machines and puzzles.

Attention to detail is essential. When you come across certain puzzles, the numbers, dates or clues collected have to be matched up, which opens gateways to other places on the map or to other ages and islands.

"...a game that offers weeks of aggravation with satisfying results"

The game begins to take shape very quickly as the pieces of the story fit into place. A man going by the name of Atrus has written books similar to Myst. When he has finished them, the worlds they describe are created and can be visited by using the books. The journey is an impressive flight across the new landscape, shown from the back pages of the various books.

These worlds are slowly deteriorating and Atrus has no idea why, but suspecting his own sons he leaves the island and records various messages. These are in the form of written diary accounts and holographic recordings stored in a strange machine in the dock house. It becomes clear that the island's fate and future has to be determined by your actions and explorations.

The first island is the most impressive of the bunch. The thick forest that covers a third of the land is full of towering trees and a winding path that leads to the power generator and deserted hut.

The impressive marble buildings hold vital information and the spaceship on the coast is waiting to be fired up to take you to new lands. Each of the locations is rendered in light sourced 3-D.

Your memory has to be up to scratch and it helps immensely to take note of numbers and other clues. The key to getting anywhere is tying the right clues to the corresponding puzzles and racking your brains for the right answers.

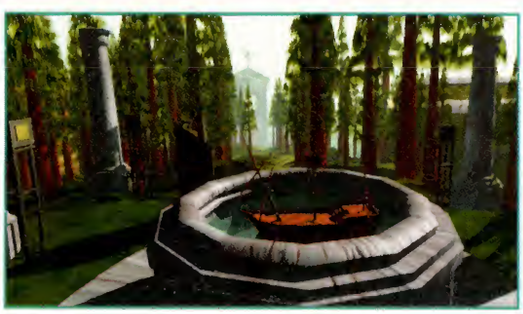
Puzzles are, in the main, frustrating as good puzzles should be, but patience always pays off. The mine of information available must be used to the full otherwise you will find yourself stranded.

The sunken ship in the bay and the spaceship on the crest of the hill are your ticket to other worlds. The ship has to be raised from the ocean bed and the spacecraft needs power from the generator.

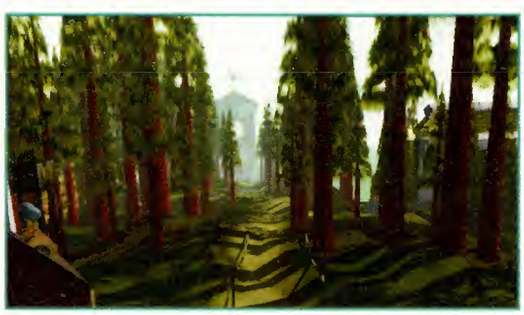
This Gothic imagery is very similar to a lot of Jules Verne's sci-fi stories where the craft looks almost Victorian in appearance – a reject from the old Buster Crabb Flash Gordon series, and sounds like it too. Cyan have drawn their influences from many

The power generator hums to the left and the strange tower looms in the distance

A WALK TO THE CLOCK TOWER



The sun streams through the branches and lights the forest floor



Where does this path lead? What mysteries does the forest hold?

In the Stoneship age the lighthouse has submerged but visit it you must

sources, but the fantasy land created is unique in both its setting and plot.

Myst is visually outstanding. The Super VGA locations are beautifully drawn and, although it could be criticised for looking like a souped up art gallery, the locations are well linked and create the impression of exploring strange islands and buildings very realistically.

It's a shame the movement about the various ages couldn't have been more in the vein of 7th Guest. Fluid transitions between locations would be much more convincing and realistic. With the addition of the ambient music and crystal clear sound effects it would have been a near perfect puzzler.

From time to time the game slowed down quite noticeably running with 4Mb, but with 8Mb things were a lot quicker. Thankfully, there is a Zap option which speeds things up. This allows you to go straight to locations already searched by clicking directly on them.

To play a game in which there are no characters to interact with made a refreshing change. The only contact with people is through the various video messages left in books and strange recorded messages in the holographic projector.

Free with the game is a 14-minute Quick Time movie of the making of Myst. It runs from Windows and most of the technical data is included along with interviews with the creators. It's more than a little pretentious in parts but of general interest, especially the sections about the creation and rendering of the graphics.

I can see for miles and miles and miles and miles

The deserted ship sits in the dock ready to sail

It begins to grate after a while and I couldn't help but remember how they recorded the water sounds, when I stood by the ocean: They held a microphone down the toilet and blew bubbles. It seemed to spoil the atmosphere somewhat.

Two years have gone into the production of Myst and it shows – brilliant atmosphere, rendered 3-D imagery, crystal clear sounds and a unique storyline. Interaction with a lot of the locations helps gameplay and the difficulty level is set perfectly and never ridiculous or unfeasible.

If you are looking for something new and a game that offers weeks of aggravation, with satisfying results, look no further than Myst.

It won't appeal if you want to see immediate results for your actions or you can't see the attraction in logically working your way through a very involving and complicated game. PCH

You won't catch me in that thing

MYST

MYST	
Publisher	Electronic Arts
Telephone	0753 549442
Price	£44.99
Format	CD-Rom

REQUIREMENTS

PC	386DX-33, Windows
Total memory	4Mb
Sound support	Anything MPC compliant
Control	Mouse
Hard drive	4Mb

ALTERNATIVELY

7th Guest	Virgin Reviewed July 1993
Verdict N/A	More SVGA puzzle solving around a 3-D animated environment
Labyrinth Of Time	Electronic Arts Reviewed Mar 1994
Verdict 60%	3-D rendered images and mazes in much the same vain as Myst

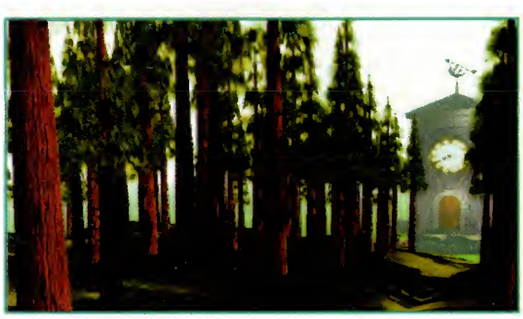
RATINGS

GRAPHICS	★★★★★★
SOUND	★★★★★★
LONGEVITY	★★★★★★
GAMEPLAY	★★★★★★

PC home VERDICT

"Myst is huge and looks stunning. The lack of animation and true movement is going to put a lot of people off, but if you like your puzzles and ambient sounds as you play, you'll adore it"

88%


Back to the coast and the ocean roars louder in your ears

Turning these valves changes the time on the clock, but why?

RAVENLOFT

Reviewed by Darren Allan

Your first step in Ravenloft is to deal with this villain – the chuckling assassin

COUNT Strahd Von Zarovich is not a very nice man. In fact, he isn't a man at all, but one of the undead – a vampire. Civil and charming he may be, noble and handsome he may appear, if rather pallid in complexion. Make no mistake though, Strahd is evil in the true sense of the word – the sort who smiles sweetly as he slowly turns the thumbscrew.

Unfortunately for you he is the evil genius behind the machinations in this latest SSI offering, and tangling with this chap is not the most pleasant of prospects. Still, if the life of an adventurer was an easy one, things would be very boring.

Hardened role players will already be familiar with Ravenloft, as it was released by TSR as an Advanced Dungeons and Dragons module. However, the actual resemblance between the adventure and computer game is reasonably limited.

Whereas the TSR adventure was set almost entirely in the Count's castle – Ravenloft – the computer game has the action spread over a section of land. Of course, it includes the castle, but much of the questing takes place elsewhere.

Ravenloft features an improved user interface, with a fully scrolling Elder Scrolls style 3-D window. For those with slow machines or who are intimidated by these new fangled 360 degree scrolling movement systems, an option is included to revert to the old Eye of the Beholder style step scrolling.

As a D&D module Ravenloft relied heavily on Gothic atmosphere to cultivate a suitably sinister gaming environment. SSI have tried to create a similarly haunting ambience, with at least some degree of success. Expect plenty of crypts and cemeteries, not to mention the massed minions of unwashed undead.

"Ravenloft aims to be a thinker's game as much as it is a hack and slash affair"

Unoriginal is probably the best way to describe the plot, but then originality is not a strong point in general where RPGs are concerned. Lord Dhelt, the reigning monarch, is nearly killed by an assassin at the start of the game. Your initial task is to catch up with the assassin and apprehend the vagabond who happens to have stolen Dhelt's powerful amulet.

After a short fight, things soon turn even more sinister when you retrieve the stolen items from the would be killer's corpse. Everything starts to swirl around, a grey mist envelops the party and things fade to black.

Returning to consciousness, you find yourself transported into the mysterious and shadowy realm of Barovia, where Count Strahd rules with an iron fang.

A thick, poisonous and impenetrable mist forms the boundaries of the game world – very convenient from a programming point of view. Very convenient indeed.

Control is fairly painless, save for one or two annoying glitches. Movement is achieved by pointing in a direction on the screen and holding down the left mouse button.

An arrow appears, and the further away this is moved from the centre of the screen, the faster the party will move or turn. The roots of the system are still firmly planted in Eye of the Beholder territory, however, aside from the full movement control.

Combat is still very much the same – as long as a character has a weapon in his right hand, clicking on it will attack the opponent in front. It takes a few seconds for the combatant to ready himself for another attack, in which time you generally use another character. As a shortcut, you can just click straight on a monster, and one of the party will attack it.

What is frustrating is the way the monsters run around, as trying to follow them round isn't easy with the somewhat jerky scrolling. Of course, any messing about is severely penalised, as your enemies rain blows down on you at a disturbing pace.

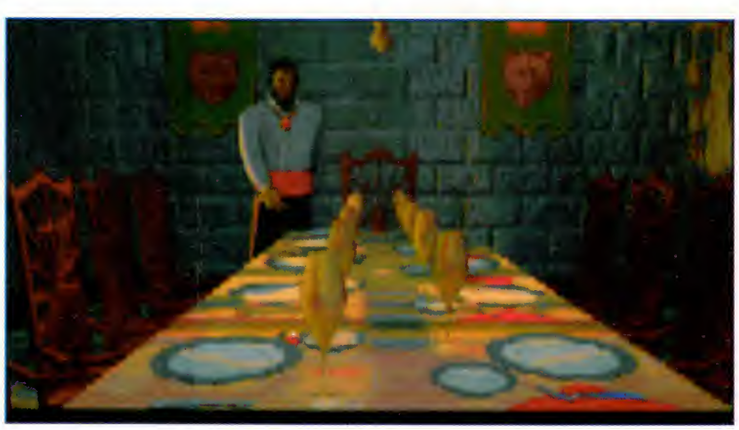
The inventory screen is brought up by clicking on the little character portraits at the bottom of the screen. A backpack section is provided which can contain a number of miscellaneous items – scrolls, potions, spare weapons, keys and the like. Armour, weapons, rings, bracers and such like are all worn on the body, and depicted on a mannequin type dummy that represents each player character.

Unimpressed

GRAPHICALLY, Ravenloft fails to impress. Everything is very blocky, especially close up, and the scrolling movement is not the smoothest ever to grace the PC. What is really lacking, however, is variety and imagination.

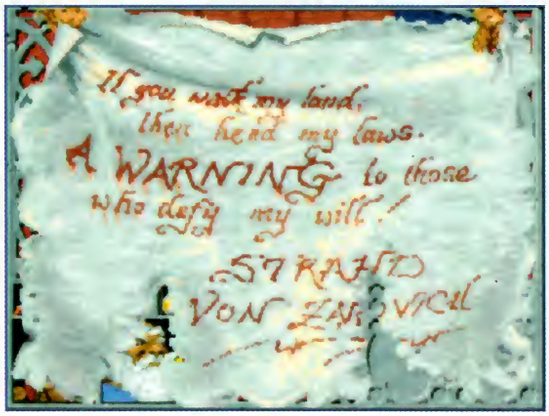
Okay, so Barovia is supposed to be a gloomy and dark land, but the visuals really are dank in a manner that doesn't

From the introductory sequence: Lord Dhelt is nearly killed by the assassin's bomb – he hangs on to life by a thread



Count Strahd asks you to dinner at his place. This is an invitation you cannot refuse

Having retrieved Lord Dhelt's amulet, strange things start to happen and you black out



Waking up, you find yourself in the village of Barovia, the Count's domain

evoke this presumably intended atmosphere.

Wandering along a road through a forest felt more like ambling down a path in someone's back garden.

Instead of actually taking the time and trouble to draw some trees, which let's face it are usually found in a forest, the programmers have chosen to use a wall with some ivy growing up it. No, I couldn't believe it either, but there you go. If that's a forest, I'm a small tin of pineapple chunks.

"...it will take an experienced player some time to defeat the Count"

Entering the first town was a similar let down, as the total lack of variety in the graphic design was painfully revealed. This may sound unfair, but compared to the towns and villages in Elder Scrolls, Ravenloft really is light years behind.

Jerky animation is also the order of the day as concerns the monsters. They generally leap and flicker about like nobody's business, although some of them aren't that badly drawn.

Sonically, matters are improved, with some vaguely atmospheric music adding to the proceedings. However, when fleeing from opponents the combat music keeps flicking on and off rapidly, depending on how near the party is to the rampaging fiends. A small niggle, but nevertheless annoying.

A lot of the sound effects themselves aren't bad at all – the chuckle of the assassin at the start of the game is quite chilling. Each monster makes different noises, and these are okay as far as they go. On the other hand, they certainly aren't anywhere near Ultima VIII quality.

In the instruction manual, Ravenloft claims to be a thinker's game as much as it is a hack and slash affair. This isn't strictly true, as there is a great deal of fighting to be done, with an encounter or two around most corners. Combat is also quite hard at the start before you've been given the chance to build the party up a bit. Frequent saving is certainly recommended.

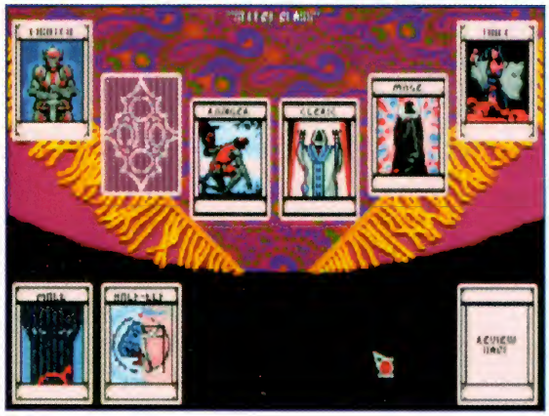
The plot isn't particularly well executed either, as it is quite linear. It wouldn't be fair to say that it was uninteresting, but it is reasonably standard fare, and not as stimulating or as free flowing as certain other RPGs I have already mentioned.

Ravenloft is certainly not small, and it will take an experienced player some time to defeat the Count. Whether you will want to persevere to the end is another matter, as the product is not very inspiring, with some very annoying elements.

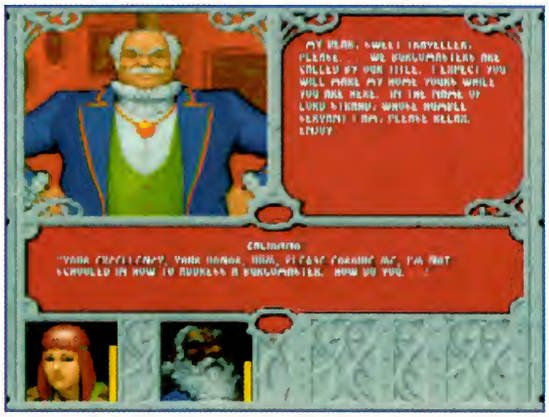
SSI are definitely taking a step forward with Ravenloft, but what they could really use is a jump to keep up with the competition. Ravenloft is just not impressive enough, both in terms of graphics and gameplay.

Hard-core role players may well be attracted to the product just because it uses the official AD&D system, which is fair enough, but in general terms this is not a winner. PCH

Those with no sense of direction can always use the automapping function



Character generation is facilitated by this rather neat little Tarot-style pack of cards



Once in the Barovia you must find one of the only sane men left in the village – the Burgomaster

RAVENLOFT

Publisher	US Gold
Telephone	021-606 1800
Price	£45.99
Format	Floppy/CD-Rom

REQUIREMENTS

PC	386 33MHz
Total memory	4Mb
Sound support	SoundBlaster, Aria, Soundscape
Control	Mouse
Hard drive	21Mb

ALTERNATIVELY

Elder Scrolls	US Gold Reviewed Apr 94
Verdict 87%	A huge challenge, with impressive visuals and practically unending reserves of gameplay. Very solid indeed
Ultima 8	Electronic Arts Reviewed May 94
Verdict 92%	This is just awesome. Spectacular graphics and sound, combined with heaps of challenging quests. Needs powerful PC

RATINGS

GRAPHICS	★★★★★★
SOUND	★★★★★★
LONGEVITY	★★★★★★
GAMEPLAY	★★★★★★

PC home VERDICT

"SSI are moving forward, but not fast enough. To be honest, it's not terrible, but you could do so much better if you look elsewhere"

64%

CARRIERS AT WAR II

WARGAMES have a reputation of being too complicated to appeal to the average game player. The allure of games based on war can be fairly limited, especially when they deal with serious subject matter.

Sensible Software got around that problem with the superb, tongue-in-cheek, Cannon Fodder. Carriers at War II is on the other side of the fence with the emphasis more on historical truth than fun.

During the battles you can decide which navy to command or control both. The computer or another player can take control of the other warring factions. Southeast Asia is the theatre of War and missions date from 1936 to 1946.

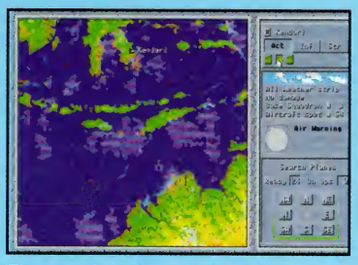
They deal with both hypothetical and historical clashes between the American and Japanese navies with British, Anzac and Dutch forces floating about as secondary interveners. The historical battles concentrate on the Japanese triumphs in Malaya, Java and the Indian Ocean and their defeats at Leyte Gulf and and Okinawa.

The manual is well written and unlike many games of this ilk you'll find yourself up and running in no time. You are taken through the first mission step by step guiding the Japanese fleets to bomb British bases.

Mouse clicks on the control icons at the side of the main map allow you to initiate action sequences for your fleets and aircraft, obtain status reports and issue orders.

The fleets are made up of various ships that perform their assigned tasks automatically or manually. The main task force can be moved and ordered to deploy reconnaissance aircraft or squadrons of planes. Your squadrons either attack ships and land bases or fly above your carriers to defend against enemy air attack.

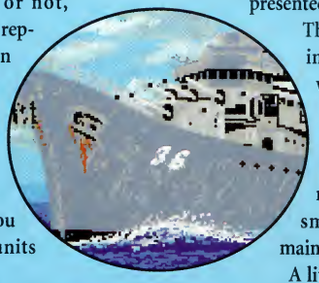
All forces and their positions are displayed on the main overhead map. From here you direct the action, the ultimate goal being to destroy the enemy or force them into surrender.



The overhead map where the forces are commanded

From the land bases direct the assault on the enemy

Status displays are available for each unit, whether active or not, which gives a graphical representation of the chosen ship or aircraft. All the forces on or around the aircraft carriers are under your direction and these displays give a better idea of what you can achieve with the units available.



Movement about the screen is a simple matter of clicking on the map and setting your speed. The support force follows in your wake unless ordered to go elsewhere and acts as an escort, defending against surprise attack. Once your ships reach their destination orders are carried out and any battles that are forthcoming are presented on screen.

The enemy ship is pictured in the centre of the screen when your planes attack. Your approach determines the result of the battle and each hit you make is represented by small explosions on the main body of the ship.

A little unconvincing is when your torpedos strike and the control tower sets on fire – this detracted from the realism of the battles. It would have

HEAD TO HEAD

REVIEWED BY

GREAT NAVAL BATTLES II

WORSE things happen at sea. Never has a truer word been said, especially when you're sat aboard a boat that's being torpedoed and shot at from every compass point.

Naval Battles II is set in the South Pacific, Guadalcanal 1942-43. Some of World War II's most important naval battles were fought in the Pacific and now you have a chance of sticking your oar in.

You partake in five tactical battles, three carrier battles and two full campaigns. It all depends on how long you want to sit in front of the monitor firing tonnes of shells into the sky. The scenarios can take anything from 10 minutes to a couple of hours, depending on the choice of mission and your prowess as a Naval commander.

The missions involve you in the scuttling of enemy ships, the resupply of friendly vessels and sailing as an escort to task forces.

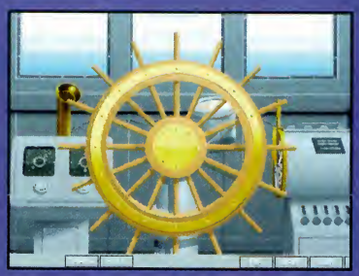
The range of scenarios and choices of campaign give Great Naval battles II the edge over Carriers at War as far as long-term interest goes. Unlike Carriers at War II, all the battles are based on historic conflict between the Japanese and American Navies with no hypothetical missions to interrupt the realism.

Control is via drop-down menus and windows, so if you use Windows you'll have no trouble getting to grips with the simple point-and-click interface.

The scenarios and campaigns begin on the bridge. From here the drop-down menus grant you access to the various stations of the ship and your task force. From the bridge you can also set navigation points or intercept courses with the enemy.

The main guns can be allocated targets by calling up the map and clicking on the targets, you can then move down to the gun emplacements and control them manually. Torpedoes are managed in the same way from a periscope view.

As added protection during battle the secondary, smaller guns are operated in the same way and prove vital during close combat. If things start to



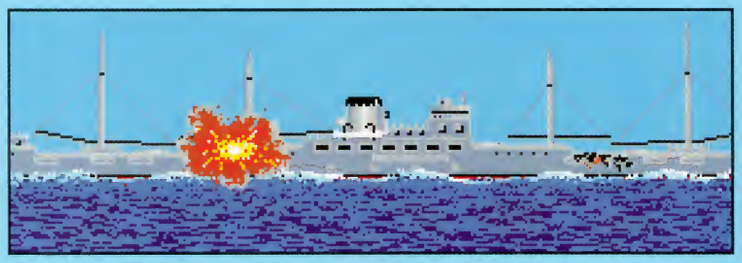
A view from the bridge. Not much happening here

Prepare the aircraft for launch to spot the enemy fleets

From the gun turrets enemy ships can be targeted and blasted

You must assign members of the crew to repair the ship during battle

Historical data is available on each vessel involved in the conflict

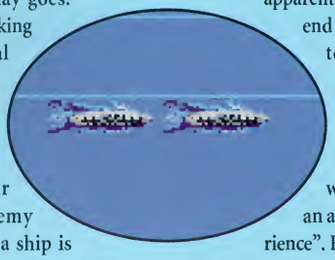


Somewhere in the middle of the Pacific Ocean the Japanese attack again – peashooters ahoy!

PETE HAWLEY

been nice to see some impressive water spouts or slow sinkings, but alas nothing of the sort.

There's plenty of detail in here but it's implemented in such a way that it leaves you cold as far as gameplay goes. The representation of attacking forces is poor and no real thought or imagination has gone into the resulting below average animations and sound.



For example, when your air squadrons attack enemy ships, a simple picture of a ship is displayed and clicking on various planes on the side panels just seemed to play animations representing the chosen attack without varying from any of the previous attacks and bombings. Where are the Kamikazes?

Anti-Anglo sentiments from the Australian software house is something you have to get used to. This first becomes apparent in the manual. At the end of the tutorial chapter and the Japanese await orders to attack the British bases, it subtly states: "It's time to whack the Pommies, an always enjoyable experience". Funny?

No feeling of interaction is generated during play – just lots of sitting and waiting for something to happen. I realise that fast action isn't a major part in any true wargame but not once did I anxiously await the results of my previous day's commands or strategic decisions. When something did happen things just got very confusing and the different fleets and squadrons under your control aren't clearly identified at all.

As PC specifications rise the detail and depth of games increases too. Carriers doesn't stretch the PC in any direction and looks very dated. The graphics generally have a gritty look to them and failed to impress all the way through.

When the game irregularly decides to make some sounds they are weak and unimpressive leaving everything to the imagination. If it's big bangs, explosions and satisfying results for any efforts your after, look elsewhere.

CARRIERS AT WAR II

Publisher	Electronic Arts
Telephone	0753 549442
Price	£44.99
Format	Floppy

REQUIREMENTS

PC	386 SX
Total memory	2Mb
Sound support	AdLib, SoundBlaster
Control	Mouse
Hard drive	6Mb

RATINGS

GRAPHICS	★★☆☆☆☆
SOUND	★★☆☆☆☆
LONGEVITY	★★★☆☆☆
GAMEPLAY	★★☆☆☆☆

PC home VERDICT 54%

The ship's guns blaze and so does the control tower, oops!

get out of control during these heated exchanges, the guns can be put on automatic operation so you can tend to other strategic decisions and dilemmas.

The ships can take a substantial amount of damage before old briney gets a chance to seep through the bows. However, damage and fire repair must be implemented to increase your life as a ship and not a submersible.

The damage screen illustrates the areas of the ship that are damaged and a number of repair teams can be allocated to each damaged section. If the fires and damage go unmanaged fires can spread to the arms stores which isn't a good idea.

From the land bases, aircraft bombing raids and reconnaissance flights are organised as are selections of the main task force's missions – the resupply of stranded vessels, the bombardment of enemy positions and all aircraft manoeuvres. The armed forces under your direction can be manipulated from here or recalled to base for repair and refuel to ensure their lasting effect.

I found the music irritating. Most of the game plays in silence and then suddenly with no reason a jolly tune would start in the background as my 5in cannons pounded a fleet of American destroyers on the horizon. Hardly appropriate.

When the cannons go off, the booms for the most part are hefty but again sometimes faded into insignificant flatulent sounds without reason.

The surface explosions and battles more than suffice and are reasonably animated but don't match the likes of Electronic Arts' Seawolf. But as the enemy turn to face and fire, their bows light up when their barrage begins which looks great even from a distance. The SVGA screens are well drawn and add a touch of class to a normally bland looking genre.

For the player who likes to get deeply involved in strategic war and look over all procedures on board the ships the option is here to do everything – from firing the guns and navigating the ship to making sure your fighter escorts are refuelled and dictating their attacks.

On the other hand, the computer can be set to automatic to overlook the parts of the game you consider boring so you can get on with the shelling.

Naval Battles II is a well balanced game but offers little in the way of new ideas or groundbreaking gameplay. However, it will keep wargamers happy for some time, despite the lack of wide range appeal in games like Battle Isle 2.

GREAT NAVAL BATTLES II

Publisher	US Gold
Telephone	021-606 1800
Price	£45.99
Format	Floppy

REQUIREMENTS

PC	386 SX
Total memory	4Mb
Sound support	AdLib, SoundBlaster, Roland
Control	Mouse, keyboard
Hard drive	12.3Mb

RATINGS

GRAPHICS	★★★★☆☆
SOUND	★★☆☆☆☆
LONGEVITY	★★★★☆☆
GAMEPLAY	★★★★☆☆

PC home VERDICT 76%

Detroit

Reviewed by Pete Hawley

STEP back in time to the beginning of the century when the first automobiles rolled off the production line and try to follow in the footsteps of Henry Ford. That's the premise of this game.

Detroit begins in January 1908 and progresses month by month right up to the year 2008. You must choose from various difficulty levels before the business venture begins and you set off to re-map automotive history.

Easy level proved a good place to start which left me with $125,000 – more than enough to buy the first factory and sales offices. The first stage is to move to the map and select a territory – it doesn't have to be Detroit it can be anywhere in the world. The first factory site is then opened for business.

So, if you're going to sell cars it would be a really good idea to make some first. The main screen where the factories are managed is made up of a number of buildings. Design new models in the design house, allocate research projects to the technicians in the Lab, channel funds into marketing projects and advertising in the marketing department, manage your staff and bank account in the administration offices or add some of the better car designs into the archive.

Newspapers report your or competitors' progress

The colourful globe with the biggest factories in the world

The design building leads to the car design screen where you select the type of car to build, its colour, body shape and style. Once the car is finished it's going to need an engine, some brakes and any luxuries or safety aspects the researchers may have invented.

Once happy with the design, instruct your workmen to build it and move on to the test screen. At the start of the game don't forget we're dealing with Laurel and Hardy cars here and not the metallic Japanese low-riders of today.

So when the newly designed car is being put through its paces in the various tests it's going to be touching on speeds around the 25mph mark with braking times of 25 to 0mph in 80 seconds.

If the car's performance is up to scratch it needs good advertising to sell it. In the marketing department allocate spending budgets to sporting events, newspapers and magazines. Plaster pictures of the new car on the billboards of the nation and boost sales.

The concept is an original one and it's a shame full advantage hasn't been taken of such a rare opportunity. For the most part, Detroit's simplicity holds interest and keeps you plodding along desperately trying to sell a new range of automobiles. But on the test screens and billboards the car shapes don't alter which doesn't give the incentive to concentrate on designs too much.

Far too much time is spent in the early 1900s producing clown cars and bangers.

Detroit should have moved quicker through the century on to cars that give the urge to sell them and not uninspired rust buckets for the first few hours of play.

The music is repetitive and sounds more like the Trumpton soundtrack than a business game and before very long you'll be reaching for the volume control. More sound effects would have been nice – they're far too sparse to generate any real atmosphere.

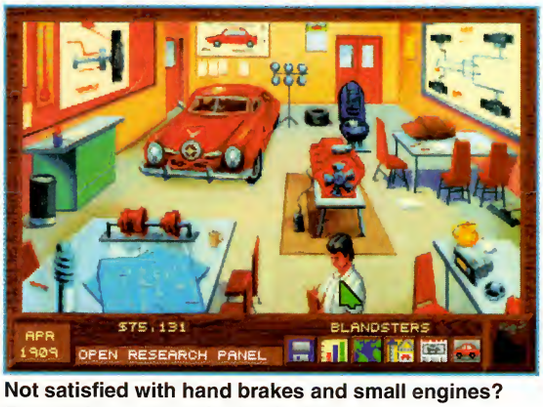
Detroit is nothing more than a business simulation with graphical interfaces and a few jolly tunes. The game isn't very polished, and disk access times are ridiculous for some of the easiest screens, like selecting various car parts and colours.

If I started to lose money it was just a matter of altering the prices of the cars, changing staffing levels and advertising costs to get things moving again. As the game progresses you don't see anything for the effort – just making or losing money and re-juggling figures from start to finish.

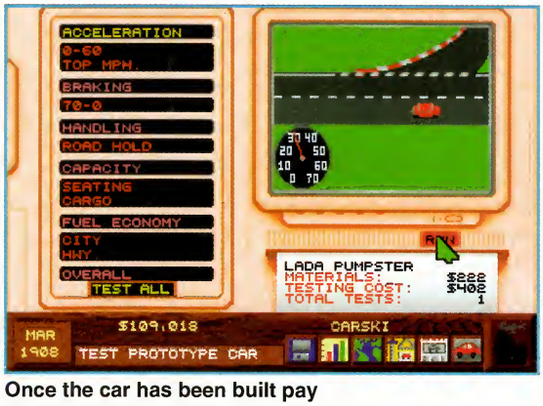
Having said all this, Detroit is strangely addictive and does give a few laughs. The option to play against up to another three people over modem is a nice addition, even if it's not very practical.

More detail would have ensured more realism and a will to work through time, building and selling various metal monstrosities. Appealing to the car buff no doubt, but wasted on the rest of us. PCH

The main screen where you dictate to your workers and staff



Not satisfied with hand brakes and small engines? Research new parts in the design room



Once the car has been built pay through the nose for various tests

DETROIT

Publisher	Impressions
Telephone	071-351 2133
Price	£39.99
Format	Floppy

REQUIREMENTS

PC	386SX 16MHz
Total memory	640k
Sound support	AdLib, SoundBlaster, Aria, Gravis, Roland
Control	Keyboard, Mouse
Hard drive	6Mb

ALTERNATIVELY

Railroad Tycoon Deluxe	Microprose
	Reviewed Oct 93
Verdict 75%	Build trains and tracks and build a thriving rail based empire
Theme Park	Electronic Arts
	Due this summer
Verdict N/A	Bullfrog's soon to be released theme park simulator. Looks good

RATINGS

GRAPHICS	★★★★★★
SOUND	★★★★★★
LONGEVITY	★★★★★★
GAMEPLAY	★★★★★★

PC home VERDICT

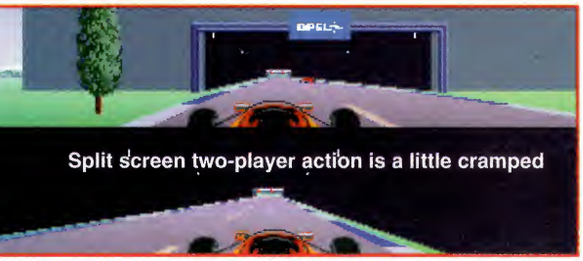
"A good idea, appealing to begin with but badly implemented"

67%

F1

VAIN machismo it may be, but the sheer speed, noise and fury of a Formula One car gives racing a fanatical following throughout the world. On the computer simulation front, the names to look out for these days are Formula One Grand Prix, by the guru Geoff Crammond, and more recently Papyrus' Indycar Racing.

Comparing Domark's F1 to these veritable giants is not really very fair, however. F1 has its roots in arcade action, rather than in serious simulation. If you remember a game called Vroom, which was released on the Amiga some time ago, F1 will certainly look familiar. In fact, it feels identical, although the PC version is improved in many respects.


Split screen two-player action is a little cramped

In terms of options, matters are fairly limited, but then this is an arcade game. Basically, you can choose to practise one of the 12 circuits, or race proper in arcade or championship mode.

Arcade means that the form of the game takes on a level based structure. In other words, at the first race – Brazil – it is necessary to overtake six cars to progress to the next track. Gradually the number of cars you have to pass spirals upwards – 8, 10, 12 and so on. Fail to achieve the required tally and it's game over.

Championship mode is more serious, in that you have to qualify for races, and the program keeps a running total of driver and constructor championship points throughout the season. You race on all tracks in a championship, regardless of performance.

A two-player split-screen game can be selected as well as the standard one player. Turbo mode is for the real driving nutcases, as the track moves even faster than in the standard version – which is plenty fast enough as it is. Various skill levels are also available, ranging from novice and amateur to professional and the dreaded expert. However, I have some reservations about the grading of these levels, as there doesn't seem to be any mid range. Amateur is really too easy, and professional is a real test of concentration, and more than slightly on the difficult side.

Before a race, minor alterations can be performed on the F1 car. Wing settings can be switched between high, medium and low, varying the amount of downforce the car generates. Gears can also be set to manual or automatic, and tyre compounds can be chosen.

Climbing into the cockpit and pressing the boom pedal flat gives a real rush of speed and adrenaline. The in-game graphics are simple, but not basic, and extremely fast and fluid. There is a real thrill to be had in the sheer speed of F1, make no mistake about it. This thrill is not augmented by the sound, unfortunately, as the noise that the car makes is something akin to a lawnmower engine rather than a high performance car.

Actual racing is made something of a heavy duty reflex test due to the speed of the game, especially on the higher difficulty settings. What is most annoying, though, is the harsh collision detection system. Hit a roadside object with the merest outside pixel of a tyre and you come to a dead halt, as if you had collided head on.

Even more frustrating is the way the steering is limited to a certain extent. If you come to a screeching halt just in front of a roadside object, it is impossible to steer hard enough to the side to avoid it. Net result?

You are forced to plough into it and then sit there for the three seconds it takes for your vehicle to be put back on to the circuit after a crash. Pitstops are needed if your car has taken too much of a battering, and these are also something of a nightmare. Miss the entrance to the pits, and you're stuffed, as it isn't possible to reverse.

"Turbo mode is for the real driving nut cases among you"

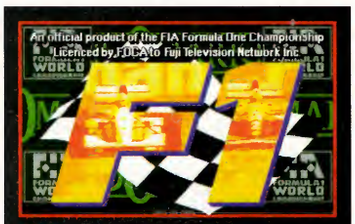
It is also very possible to hit the poles that mark out the pit lane as you go in, which counts as a crash and moves you back out on to the course – with no way to get back in to the pits.

These frustrations multiply the difficulty of the game unnecessarily, and I found myself frequently swearing under my breath. Professional level almost brought me to blows with my monitor – it was that bad at times.

This is a shame really, because with some of these restrictions lightened, and a bit more control over the steering, F1 could have been an impressive game.

Even as it is F1 isn't bad by any means, and those looking for an arcade racer may well find it a pleasing effort, if they have some patience. PCH

A typical Formula One start



F1

Publisher	Domark
Telephone	081-780 2222
Price	£29.99
Format	Floppy

REQUIREMENTS

PC	386 25MHz
Total memory	568k
Sound support	AdLib, SoundBlaster
Control	Keyboard, mouse, joystick
Hard drive	2.5Mb

ALTERNATIVELY

Grand Prix	Microprose Reviewed Feb 93
Verdict 89%	One of the most realistic sims ever. An excellent game if you like a heady dose of realism to complement the action
Rally	Europress Software Reviewed Xmas 93
Verdict 84%	Similarly arcade like in design to F1, but based on rally cars. Has a more down to earth feel. Boy racers will love it

RATINGS

GRAPHICS	★★★★★★
SOUND	★★★★★★
LONGEVITY	★★★★★★
GAMEPLAY	★★★★★★

PC home VERDICT

"A nice little game, which can be fun to play on the lower difficulty levels, but extremely frustrating on higher levels. Worth a look if you like fast arcade action"

72%

Merchant Prince

Reviewed by Darren Allan

MARCO Polo, Da Vinci, Michelangelo – all famous figures belonging to the early renaissance period, in which the world of Merchant Prince is set. However, the inspiration for the game is not drawn from these chaps, but from one particular devious character of the era – Machiavelli.

Trading, alongside political and religious dealings, form the heart of this playable strategy game. Machiavellian it most certainly is, for corruption rules almost totally and backstabbing is rife.

You play the part of a Venetian nobleman in these troubled times. Basically, the idea is to further your family name by amassing as much wealth as is humanly possible. Trading is the main source of income, but wealth can be plundered from the Vatican and the Doge – the Venetian Head of State.

If you think strategy games are boring, you're not going to like Merchant Prince one little bit. It is a thinking man's affair all the way through – even wargaming style combat action is relatively scarce. If, on the other hand, you enjoy giving the old grey matter a bit of a bashing, this may well interest you.

Venice is where you begin your rapacious doings, but not before the skill levels of the three computer opponents have been selected. Ranging from novice, through average to expert, five difficulty settings are available. Beginners will probably not want to go up against anything more than a couple of fair opponents and an average one.

Other variables include the frequency of storms and pirate attacks, both of which threaten trade.

These are best left at minimum levels, as they are luck based elements that can be extremely frustrating at times.

"If you think strategy games are boring, you're not going to like Merchant Prince"

Also, the number of ships and the amount of money that you begin with can be chosen. You can play on a historically correct map of Europe or a randomised version.

Ships are the bread and butter of the aspiring merchant prince. It is with galleys, and more commonly Cogs, that you move trade items from place to place, hopefully making big profits in the process.

Donkeys and camels can be used to move goods overland, but this generally isn't as quick as sea transit.

At the start of the game, your first objective is to find a decent trade route or two and forge on ahead with a program of capitalist exploitation. Trading basic items such as fish or cloth is all you can do to start with, but as you explore the world the more expensive items which carry the real profit margins will become accessible.

Similarity between Merchant Prince and Civilisation is most obvious on the main map screen. Merchant Prince looks much the same, except for several pertinent enhancements. Most noticeably, it looks far sharper, depicted in SVGA.

Also, instead of having unexplored areas of the map totally blacked out Civilisation style, predicted coastlines of where the land is *supposed* to be are shown using a light brown crinkled parchment colour.

It may sound like I'm waxing lyrical, but this really does give a better atmosphere than just having the undiscovered areas blacked out. It is also quite entertaining to see how much the cartographers have cocked up in their rough estimates.

Movement of units couldn't be simpler – a left mouse button click sets any square as a unit's destination. Three colours denote movement modes that can be selected. Green mode means the unit will travel to its destination along the safest, and usually longest path.

Travelling along the coast is safer, as the further out to sea a ship is, the more likely a storm will scupper the vessel and its valuable cargo. Yellow mode denotes a riskier but quicker path and red mode orders the vessel in question not to deviate from the quickest route regardless of hazards such as storms and pirates.

Different ships can carry various amounts of cargo. Large Cogs are the heavy duty trading powerhouses carrying up to eight trade items, and Small Galleys the exploratory vessels as they can move 15 squares per turn – in comparison with a Cog's nine. Large Galleys have a reasonable cargo capacity to boot, but you have to pay for the privilege.

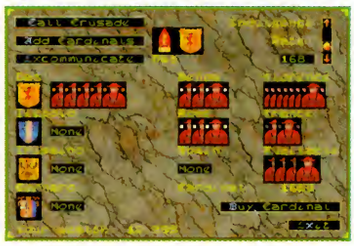
On land, donkeys and camels are much the same, except camels are better in desert terrain, surprisingly enough. Both

Rome is under siege. Combat isn't exactly exciting in Merchant Prince

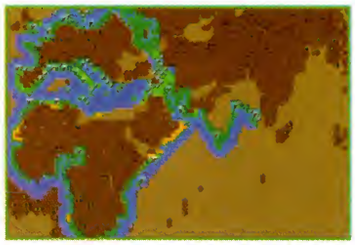
Venice is the base of all four of the merchant princes involved in the game

Setting up long trade routes with the Middle East is a very good mid-game tactic

Venice was a central European power in itself during the early Renaissance



The Pope must die – well, sooner or later anyway



Nicely drawn map of the world. All the brown bits remain undiscovered

these units can move as much cargo as a Large Cog. Trading really is the heart of the game and fortunately the relevant algorithms have been well constructed.

Exploration is important because you need to find the more far flung Asiatic cities to cash in on the real money – trading gemstones and precious metals with the West. Alongside trading, however, it is a good idea to hold some sway in either the church or the senate as there is money to made in both.

Political machinations revolve totally around bribing senators to join your bandwagon. Each of the 10 senators has one vote, and every 10 years there is an election for the position of Doge – the Head of State.

Securing this position allows you control over appointing the General, Admiral, and the Minister of Justice. It also means that you set the annual budget, which is generally good news for your pocket.

This is where political dealing with the microchip opposition comes into play. As you bribe one faction's senators away, they will more than likely become unhappy with you. Retaliation can come in various forms, although the most powerful comes from the Minister of Justice, who can basically get away with hanging senators for a laugh. It isn't very pleasant to watch your hard earned political power disappear in such a manner.

"Combat is fairly straightforward but probably the weakest point of the game"

The General controls the Venetian army, which can be useful for both defence of trading convoys and more offensive purposes. Some cities will refuse Italy access for the purposes of trading, but after a good beating they generally change their minds.

Combat is fairly straightforward but probably the weakest point of the game. It is always the stronger side that wins, and the victory is usually total. However, combat isn't given a terribly important role and most of the fighting done is defending convoys from pirates.

Religious matters also come into the equation. Papal elections occur whenever the current Pope dies and votes are cast by each cardinal. Cardinals are bought in a similar manner to senators, except that they are more expensive. This is compensated by the fact that they cannot be bribed away.

Papal powers include increasing Cardinal indulgences and selling Cardinalships, which is all in the good cause of lining the Pope's pockets. Cities that the Pope takes a dislike to can be excommunicated, and a Crusade can be activated, giving the Pope control over a sizeable army.

All these factors have to be balanced out against each other in the quest to outscore your computer opponents. Game length is variable, but the longer ones can take the best part of a week of playing to finish.

This is a very solid strategy affair – the computer opponents are reasonable foes, and the game is put together very nicely. Compared to Civilisation, this definitely feels more like a board game than an experience. It certainly isn't nearly as deep as Civilisation, but Merchant Prince is accessible to both novices and strategic buffs alike, and as such is an impressive product. PCH

In this den of iniquity you can hire arsonists and assassins to harass your opponents

The end of game screen could have been a bit more rewarding

MERCHANT PRINCE

Publisher	Mirage
Telephone	0260 299909
Price	£44.99
Format	Floppy

REQUIREMENTS

PC	286
Total memory	1Mb
Sound support	AdLib, SoundBlaster
Control	Mouse only
Hard drive	4Mb

ALTERNATIVELY

Civilisation	Microprose Reviewed Dec 92
Verdict 86%	Worth more than this in my opinion – this is an absolute must buy
Reunion	Grandslam Reviewed Apr 94
Verdict 85%	Great game for those who prefer their strategy games to be space based. A huge challenge

RATINGS

GRAPHICS	★★☆☆☆☆
SOUND	★★★☆☆☆
LONGEVITY	★★★★☆☆
GAMEPLAY	★★★★☆☆

PC home VERDICT

"Plenty to do, lots to explore and some challenging computer opposition on the harder skill levels. Quite a playable little jaunt indeed"

75%

ISHAR 3

THE SEVEN GATES OF INFINITY

Remember...
So many battles...
But the peace that was so hard fought for, is short lived...
The shadow of Chaos is cast anew on the walls of the citadells...
A journey throught the gates of time itself, in pursuit of the dragon of Sith, the last survivor of the Great Black Dragons...
The third installment in the saga of the Kingdom of Arborea, Ishar 3 journeys once more into the universe of the RPG, with its strange worlds, mythical adventures, imaginary creatures - possibilities of creating and reusing the characters from past adventures.

Silmarils

Available for PC and compatibles
AMIGA/AMIGA 1200
ATARI ST/STE/FALCON
MACINTOSH - CD 32

SILMARILS UK, 2 CANFIELD PLACE, LONDON NW6 3BT TEL : 071 328 2762 FAX : 071 328 2738

Show Business

As the dust settles on the Business Design Centre in London, the venue for the Spring European Computer Trade Show, Andrew Shaw nurses bent ears and aching feet to bring the latest product news from the leisure industry

AS FAR as trade shows go, the European Computer Trade Show – or ECTS – is one of the biggest. Second only to CES in Las Vegas and gaining much from its European bias, it is more than just an excuse for public relations executives to tart about and journalists to sharpen their drinking skills.

In fact it is the showcase for the whole spectrum of the computer games industries from the tiniest hand held cartridge systems to the latest in Virtual Reality. The PC contingent is always strong, but this time there was more commitment to the PC platform than ever.

It's impossible to go into detail about every product we saw at the show – we really could fill a magazine with it, but here's a brief look at the names to watch out for in the coming months.

JUST looking round the stands, it's virtually impossible to decide where to start, so in all the traditions of fairness we'll do it alphabetically.

Simon the Sorcerer has been severely souped up on the **Adventuresoft** stand for its imminent release. With Chris Barrie – Rimmer in Red Dwarf and Brittas in The Brittas Empire – playing the part of Simon, it gives this game an excellent British feel.

The good news is that they did all the speech for Simon the Sorcerer 2 at the same time so expect simultaneous CD-Rom and floppy releases for that one.

The launch of **Codemasters'** Micro Machines has apparently been delayed, but promised for November is a follow-up – Micro Machines 2.

On other formats the latter will have the option of up to four human players at the same time, so keep your fingers crossed for similar options on the PC.

Spooky graphics and the urge to shock still pervades the air at **Cyberdreams**, with a continuing commitment to using the big nobs in adult fantasy and gaming. Prolific Fantasy novelist Harlan Ellison will see his story *I Have No Mouth, And I Must Scream* turn into an adventure game and H. R. Giger art will thankfully be featuring in Dark Seed II.

Lastly Gary Gyax of AD&D fame is developing a first person perspective RPG called Hunters of Ralk. However, this is all a long way into the future so don't expect to see anything until 1995.

Next month you should find a review of Robinson's Requiem, and still to come is Ishar 3, the next RPG in the series from Silmarils via **Daze Marketing**. Both these products looked very impressive.

In a brewery

DESPITE not actually being at the show, **Electronic Arts** managed to throw a bit of a do hand in hand with Intel at a brewery. Although EA were showing off games on the latter's Pentium processors round the edge of a party, the free bar probably attracted more attention.

On show was the latest batch of goodies from Origin, including a very imminent Wings of Glory 1917-1918 and System Shock – a first person perspective action adventure with stunning graphics.

Looking further down the line, Origin also have Bioforge – a cinematic adventure with dynamic camera angles – *à la* Alone in the Dark – and fully rendered 3-D graphics.

The EA Sports label is releasing the very popular FIFA Soccer which will be around in time for summer and Bullfrog have Magic Carpet – a kind of flying rug simulator – to follow up Theme Park.

Empire look like they're finally on the verge of releasing Dreamweb and Cyberspace, both previewed in the November 93 issue of *PC HOME*. Both will be available this summer as will Empire Soccer, another world cup release.

The success of Elite II has spawned another Elite title from **Gametek** and David Braben, which will be released later this year. A prequel to all that happened in Elite II – expect more alien bashing and combat in this standalone version.

Launched at the show and due for review next issue is Corridor 7, based on an enhanced Wolfenstein 3D engine. Also due soon is Beverly Hillbillies – a graphic adventure based around the forthcoming Fox film of the same name.

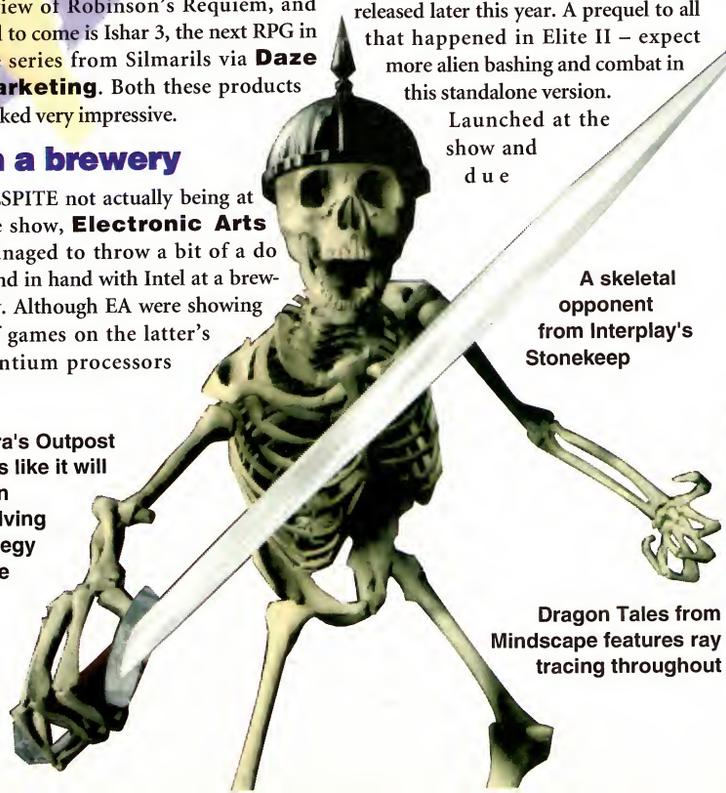
Be scared by Merit's Harvester

Following that will be Quarantine – a 3-D first-perspective driving maze shoot-'em-up, Star Crusader – a space-based action adventure and Bureau 13 – a very cinematic looking futuristic adventure. These last three are going to be CD-Rom only, but the sneak previews looked like they were a bit special.

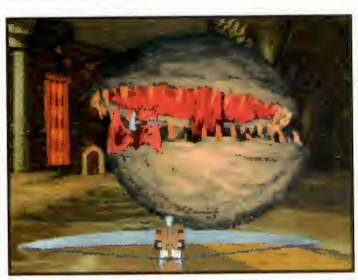
Gremlin were another company skiving from maintaining a stand at the show. However, they did manage to pass word out that they are porting Desert Strike on to the PC.

This arcade game – more than a little bit based on the Gulf war – was a

Sierra's Outpost looks like it will be an involving strategy game

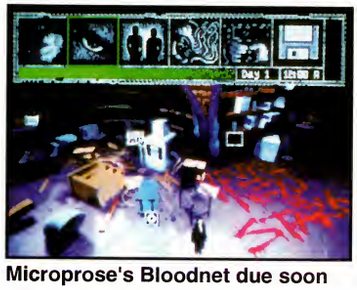


A skeletal opponent from Interplay's Stonekeep



Dragon Tales from Mindscape features ray tracing throughout

Arnmoured Fist from Novalogic



Microprose's Bloodnet due soon

Mike Singleton's The Ring Cycle

The Chaos Engine from Renegade

huge success elsewhere so expect similar things on the PC. Also look out for Zool 2 which promises to be faster and even more fun than the original. See page 96 for a full preview.

Impressions finally unveiled a very close to finished version of Detroit, with stacks of factory simulation for those who can't get enough of work at work.

Also on show was D-Day: The Beginning of the End, the next title in the Micro Miniatures series to follow up The Blue and the Grey. It is substantially different with the addition of air forces, armoured vehicles and improved artillery. On the drawing board is Breach 3, an isometric strategy romp and Lords of the Realm, castle building and battle in 13th Century England.

CD-Rom products galore are blossoming from the buds of **Interplay**, with enhanced versions of Sim City, Sim Ant and Buzz Altrin's Race into Space all promised with some very nice looking enhancements. Sim City for example opens a window into your city using professionally produced video shot in Hollywood.

Looking rather nifty on the CD-Rom front is also the very long awaited Stonekeep, now in a playable incarnation but still having a fair amount of work to go so don't expect anything this year.

Castles II should be released very soon on CD-Rom with added documentary and film footage from the BBC and loads of European diplomacy with digitised enhancements.

Looking to follow the success of Battle Isle 2, **Blue Byte** are releasing a port across from the Amiga via Kompart known as Settlers. Basically it's a free form strategy, simulation, life in general sort of game in which you have to lead a population of little computer folk, facing human or computer adversaries. It was huge on the Amiga and as looking equally nice and completely compulsive on the PC.

The star of the **Krisalis** stand had to be Bazooka Sue, a bit of a saucy porker who is set to star in her own cartoon style graphic adventure. For family viewing some of the racier scenes we saw are likely to be somewhat edited, but expect a little more smut than in the likes of Day of the Tentacle.

Sim City 2000 is being expanded by **Maxis** with a scenario disk featuring real and imaginary disasters ranging from last year's fires in Malibu to a lawyers' demonstration which turns into a riot set to happen in Washington in 1995.

The CD-Rom version is also on the verge of release with extra video clips depicting life in your city from the town advisors to the worst disasters.

Away from the sim theme Maxis have a photo-realistic graphic adventure based around Greek mythology. All your favourite beasts like the Medusa and the Hydra have been lovingly recreated so that the whole thing looks like something out of Jason and the Argonauts. Very nice.

It looks like the horror game Harvester is going to get released in this country by **Merit Software**, the American company who developed it. The graphics are made up of animated and digitised characters on rendered 3-D backdrops, and the video of the game looked superb. Not much sign of gameplay yet, but the word is we're not going to have to wait too long and it has all the potential of being a bit of a corker.

Strike a 'prose

ON THE **Microprose** stand, spooky futuristic vampire adventure Bloodnet is very close to being finished and there was more to see of the up coming WWII tank battle game Across the Rhine.

Subwar fans will be pleased to hear there are mission disks in the pipeline, which will also be included on the CD-Rom version of the game released in June.

Trekkies will also be looking forward to July when Microprose are hoping to have Star Trek: The Next Generation – A Final Unity ready, featuring – at great expense – Captain Jean Luc Picard.

Lastly, classic games Civilisation and F1 Grand Prix are both expecting to be sequelled by the end of the year so look out for New World: Colonisation and F1 Grand Prix 2 respectively. These could easily be the hottest games of the year so keep your eyes peeled for news.

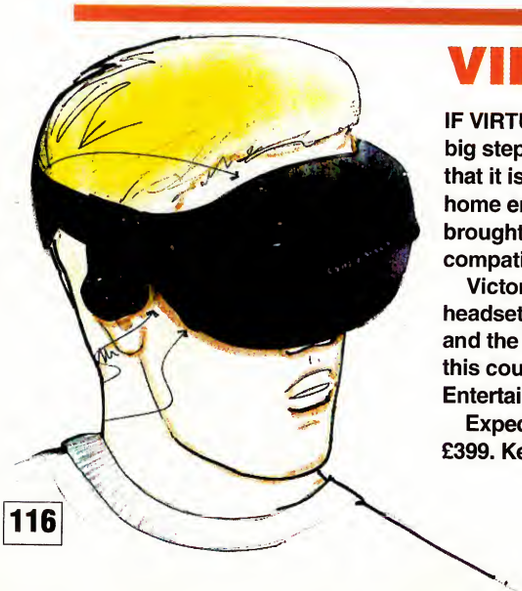
Mindscape's biggest product of the show was Dragon Lore – The Legend Begins, which was to be named Dragon Tales. Produced by the team that bought you MegaRace it features fully rendered backgrounds and loads of puzzles. Only available on CD-Rom it looked very tarty indeed.

Mirage announced that Rise of the Robots – previewed in our March issue – is to be put back until September (almost a year late) when it will be released simultaneously on 13 formats. Strange considering the PC version is essentially complete. Still the guys had a distribution deal with Time Warner to celebrate.

Novalogic's Armoured Fist is a modern day tank simulation that uses their Voxel Space landscaping technology – as seen in Comanche – for ultimate realism. Due out in September it'll probably be a must-have product for tank bashers everywhere.

Showing a much further completed version of Inferno, there was a lot more gameplay beginning to appear from the **Ocean** stand. There are seven planets to explore with three moons between them and around 700 missions to complete.

Much of the action will occur in space in a strategy shoot-'em-up type way though there will also be missions to complete inside and on planets.



VIRTUALLY HERE

IF VIRTUAL Reality is what you consider to be next big step in PC gaming, you'll be pleased to know that it is that bit closer to becoming a widely used home entertainment product than ever. The ECTS brought with it news of two systems with PC compatibility.

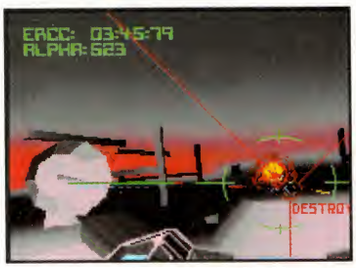
VictorMaxx – American manufacturers – have a headset called CyberMaxx. It's really rather good, and the good news is that it is being marketed in this country, by ICE (Interactive Computer Entertainment).

Expect it to arrive this summer priced at around £399. Keep your eyes on this product because it's likely to be big news over the coming months.

Elsewhere was the VFX1, which was a bit further in development than the CyberMaxx, and is due in the States at around $1,000. This will make it expensive over here, but they had it up and running with Doom and it looks excellent.

Whether or not these will make it into our living rooms in a big way has yet to be seen, but the kind of attention they were attracting from everyone who passed by was phenomenal.

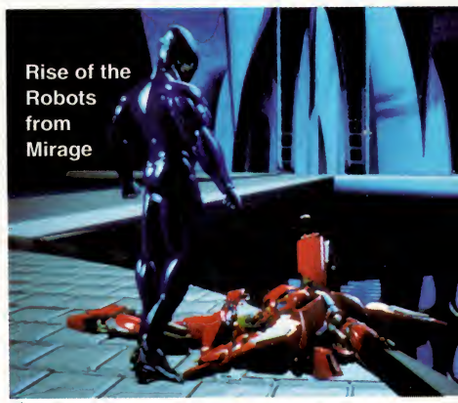
Both companies are looking for direct support from the major software houses for their products. We'll look at both systems soon.



Speed shooting with Delta V

Impressions' Detroit for car design

Overhead racing from Team 17



With a sound track by Alien Sex Fiend, a graphic novel by 2000AD artist Sean Phillips and cinematic sequences that people who've got our CD MegaDisk will have already seen, it looks like it's going to be hot, hot, hot when released in September.

Also being bantered around was Central Intelligence, a strategy game based around covert CIA type missions in South America, and Iron Angel, a flight sim which should allow both planetary and outer space missions.

Psygnosis had a press day on the Saturday giving us an extra excuse to stay another night in the big smoke. Nibelung's Ring, the first instalment of The Ring Cycle programmed by Mike Singleton's Maelstrom team, was the jewel in Psygnosis' crown this time around.

Looking superficially similar to Domark's Lords of Midnight III – The Ring Cycle utilises an improvement on the same engine – but sounding like something you'd expect from the Royal Opera House thanks to bits of added Wagner, it's an RPG based around Norse mythology.

"...it is the showcase for the whole spectrum of the computer games industries"

Absolute chaos

RENEGADE had something to show of Chaos Engine, which with 256 colour graphics looked a lot nicer than any of its previous incarnations.

Set in what Renegade describe as a steam driven cyber-punk Victorian England, it has as much gameplay as can be expected from a Bitmap Brothers arcade adventure game. Namely lots. This should be in the shops very soon.

Also they had The Flight of The Amazon Queen, a LucasArts style graphic adventure from Australia, set in the Amazon in the late 1940s. You must stop a mad scientist from taking over the world by changing people into dinosaurs. Bizarre but very humorous, watch out for it in November.

Sierra's Outpost was one of the most eagerly awaited games of the show, with 3-D rendered sequences and strategic colonisation gameplay. This was in quite an advanced state when we saw it so expect a review very soon. Coktel, under the Sierra banner, are working on another of their characteristic flight, fight and adventure games in one, called Veltion.

At the moment there are just cut sequences and no game, and it looks fairly similar to Inca 2, but it is in a very early stage.

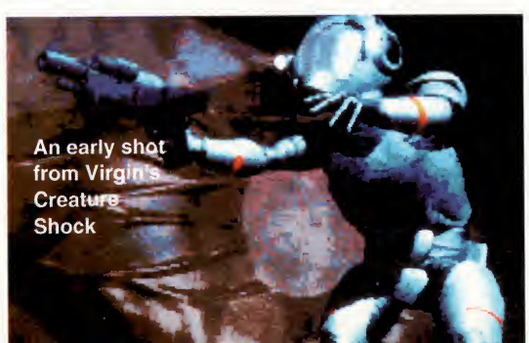
There were also a couple of Dynamix products on the Sierra stand: Battledrome which involves riding around in big robots and shooting your opponents, and Front Page Sports Baseball, really aimed at countries that actually play the game a little more than we do.

Team 17 had a lot in the pipeline but not an awful lot on show PC wise. Arcade Pool was running though, and for less than £15 looks like it could be very good value having more options and rules variations than we knew existed. It plays pretty well too.

On the way is also Superfrog, a platform bouncy action game and Overdrive, an overhead view racing game.

More gold

US GOLD had products oozing out of every available square inch this time. Bethesda were showing the very fast trench flying and shooting game Delta V, which should be available very soon. Sitting on a vibrating Thunderbox seat really made it an experience you didn't forget for a couple of hours. See page 44 for your chance to win one!



Also on show was the very nice looking Under a Killing Moon, with freedom to move anywhere in the rendered locations from a 3-D first-person perspective.

The main digitised characters are performed by Hollywood actors and it all looks really impressive. Size wise it'll come on – wait for it – three CD-Roms!

LucasArts had Tie Fighter up and running, with the same filled polygons but better shading than X-Wing. All the usual cut sequences and Star Wars mythology is present, with the potential of flying under Darth Vader towards the end of the game. Cue the heavy breathing.

SSI were showing off a fantasy battle game called Dark Legions, similar in style to the fighting section of Fantasy Empires but with added strategy and animation to rival Battle Chess. Also Al-Qadim is almost upon us, utilising the newly improved Dark Sun engine in what will be the last SSI/TSR tie in.

The future for SSI holds a new role-playing system developed in house, which will be designed specifically for computer RPGs but will also be released as a paper-based game for complete enthusiasts.

Lastly but by no means least come **Virgin**. Playable versions of The 11th Hour were on show, looking very nice, and with more CD-Rom games sprouting out all over the place.

Lost Eden is a strategy adventure based in a fictional past when humans and dinosaurs lived together in perfect discord. Creature Shock is a futuristic space exploration and shooting game, with the promise of lots and lots of nasty alien creatures to destroy.

For younger gamers, MegaDrive conversions Cool Spot and Aladdin are on their way across to the PC, and Overlord, previewed in the April issue of *PC HOME* is very close to shipping. As is Werewolf KA-50, a helicopter sim based on the choppers of the same name.

Westwood Studios' next project looked very tasty, but with only a few rendered sequences to go on and no game what so ever to back it up it's still kind of early to report anything. Definitely another one to keep your eyes peeled for though.

An overview

IF THERE is one thing that was obvious from meeting nearly all the developers in one place over such a small space of time, it is the commitment to CD-Rom products and the belief in the market. Because this kind of thing tends to be self perpetuating, it seems that the market will be heading in this direction even sooner than everyone thought.

With a product base of this size and manufacturers beginning to produce cut down versions – if any – to go on floppy, it looks like CD-Rom drives will become the *must have* item of the 90s. It's not too absurd, it happened with hard drives not so long ago. And when you get down to it, it's just another way of storing information. Just more of it. I have seen the future, and it's round and silvery. PCH

NETWORK Q RAC RALLY

CHECK OUT THE LATEST FLIGHT SIMULATOR

Get your **FREE** Rally Souvenir Poster by telephoning 0625 859333 **NOW.** Limited Edition.

This rally sim's so lifelike you can almost smell the high-octane fumes. **"We have lift off!"** Just what you **don't** want to hear from your computer co-driver...

He's screaming pace notes above the shriek of the engine... you're pushing it to the edge in the final thrilling stages of the Network Q RAC Rally.

You're strapped into one of the five rally-bred supercars, speeding in the exact tracks of the '93 Rally leaders. Each car handles differently. Each tests your driving skills flat out.

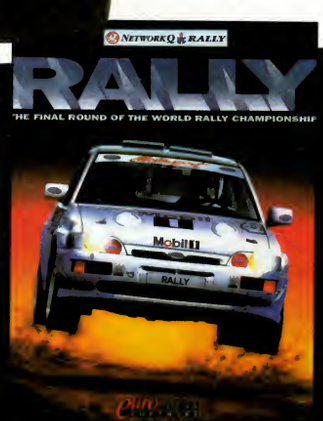
You're picking up vital seconds when you hang a bend late, clip a bank and flip into a roll – damage your car and you dent your chances.

It's the sequel to the top-selling RAC Rally game. But the sound's even more deafening, the digitised video graphics even more *in your face* for an atmosphere that's totally turbo-charged.

Flying around the world's toughest rally course is one thing. Staying on earth is another.

WARNING: CRASH HELMETS NOT PROVIDED.

Available for PC, Amiga. PC screen shots shown.



© Europress Software 1993

europress SOFTWARE

CREATIVE LEISURE

Europress Software, Europa House, Adlington Park, Macclesfield SK10 4NP. Tel: 0625 859333 Fax: 0625 879962

Continuing the series on all things budget, the *PC HOME* team immerse themselves in products from Ocean's Hit Squad range

Hitting the mark

FOLLOWING last month's round up of the Kixx range, here we're looking at the range of Hit Squad budget games from Ocean. Because of the size of this collection we'll be spreading it over two months, so look out for part two in our July issue.

Once again we have completely re-evaluated all the games on their merit at a new budget price, with just the price and a star rating for each product to keep the reviews clear and informative.

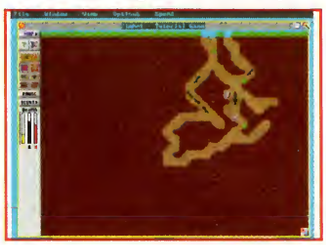
PLAYING GOD

IF YOU haven't already got it, **SimCity Classic** could well be worth a look. Building your own city is a joy with this timeless and highly accessible sim.

Balancing Industrial, commercial and residential zones while dealing with power, transport and, of course, the occasional earthquake is all part and parcel of the experience. However, at £16.99 it may be a touch pricey. Still, it is a definitive classic so it gets ★★★★☆☆.

More god-like antics can be experienced by the amateur megalomaniac in **Sim Earth** (£19.99). You are given control over the entire evolution of the planet Earth, from single cell organisms to intelligent life forms. In fact, there is very little you cannot do in this global variant on the SimCity theme.

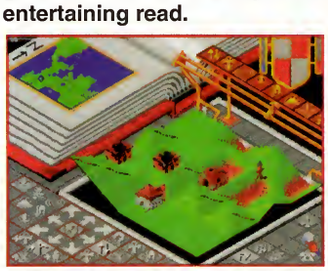
After you have advanced the planet Earth far enough, it is even possible to colonise another planet in the Solar System. It's very deep and not one for the part time games player, and gets ★★★☆☆☆ as it is among the most expensive at £19.99.



SimAnt (★★★★☆☆ £17.99) from Maxis, the creators of most things Sim, is a rather strange piece of software.

An electronic ant colony isn't what you'd call an inspiration as far as games publishing goes, but SimAnt is surprisingly addictive.

Manage your colony and eventually lead your soldier ants to conquer the red ant camp and finally the house in the distance. Weird. As is the norm with Maxis games the manual is superb and offers plenty of detail alongside an entertaining read.



Populous (★★★★★★ £14.99) was Bullfrog's first God sim and since its release has probably been one of the most cloned game genres around. Using your powers of divine intervention, lead your people to victory over the enemy.

Send in your knights, gather your army or raise the enemy's land with volcanoes, earthquakes, swampland and all manner of gruesome natural disasters. Populous is showing its age compared to, say, Syndicate, but as a game it still shines.

Bullfrog followed the success of Populous with **Powermonger** (★★★★★★ £14.99). The overall view and playing technique is very similar but with much more variety and larger land masses to conquer.

There are no natural disasters at your fingertips just lots of men with swords, catapults, cannons and bows. Your troops must live through the seasons and you must ensure your men's loyalty by keeping them happy and not constantly sending them into aggressive battles. This is a much more direct approach to battling and it's massive. Predictably, another classic from Bullfrog.

GOOD SPORTS

TAKING to the baseball field for a moment, **Hardball** (£12.99) does a rather tame line in 100mph fast balls. In fact, it is possible to die of old age waiting for a pitch to reach the batter's plate. Slow isn't the word.

Graphically, the display is rather poor EGA, and on the whole this is a very lacklustre effort. On the Amiga, Hardball was very playable indeed, but this is a botched conversion job of the highest order. Not recommended at all – it gets ★★☆☆☆☆.

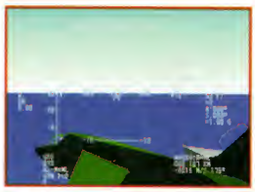
RBI 2 Baseball is also a minor league player, with even poorer 16-colour graphics, and as such also gets ★★☆☆☆☆. At least the actual game isn't as sluggish as Hardball, but it is just as unplayable.

There is a selection of teams to choose from, but this is a small consolation since the league games themselves are of such poor quality that they aren't worth playing. True, RBI Baseball is only £9.99, but we would seriously doubt that anybody will find themselves playing it for any length of time.

Still on the American sports theme, **4th & Inches** (£12.99) takes the action out on to the gridiron. Although it looks rather dire, this is actually quite a playable game. Calling plays is simple and executing passes is easy, which is quite important. Unfortunately it uses the same type of game engine as Hardball, which only allows you to pick from two teams: The Champs and the All stars.

Possibly its major problem is that it runs too quickly on a 486, even with the turbo switched off. Nevertheless, it gets a solid ★★★☆☆☆.

TAKE TO THE SKIES



FANCY a spot of aerial warfare? Look no further than **The Heroes of the 357th** (£14.99) which provides seat of the pants World War 2 combat action. This is a fairly aged looking product, but the plane graphics look good and move well, even if the ground detail is on the sparse side of non existent. Essentially, this is fairly standard flight sim fare, and as such it gets ★★★☆☆☆.

Argonaut Software, inventors of the super FX chip for the Super Nintendo, spent aeons on this flight sim. When it eventually arrived it was worth the wait.

Birds of Prey (★★★★☆☆ £14.99) is an excellent flight sim which gives you the opportunity to fly and command up to 40 warbirds.

Maybe it tries too hard to be too many things at once as things can get a little confusing moving from plane to plane. It moves smoothly, is packed with realistic data and offers plenty of variety for the flight sim buff.

DID are the 3-D masters and **F29 Retaliator** (★★★★☆☆ £14.99) was their first prestigious flight sim which gained them huge recognition. Obviously it's not TFX but it plays like a dream and it's ultra smooth.

The lack of ground detail speeds things up and leaves you sky high and racing to concentrate on your dog fighting. Ground missions are also part of the campaign and it all adds to F29's appeal. You can even play head-to-head via serial cable.

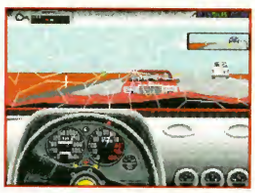
Now where do we begin with **John Madden's Football** (★☆☆☆☆☆ £14.99)? The ball is bigger than the poorly animated player sprites and the sound, text and graphics look like poor Spectrum conversions. You'd be better off spending the money on an American football and taking the dog to the park.

Rack 'em brings the world of so called pub sports to your PC, and does so with at least some style (★★★☆☆☆). A selection of slate-based ball games can be chosen, ranging from snooker to various different types of pool, as well as the ability to perform John Virgo style trick shots.

Potting a ball couldn't be simpler because you can actually move a cursor into position and thus direct the ball exactly where you want it to go. In fact, things are a little too easy, but even so this isn't bad for £9.99. It may be worth waiting for Team 17's Pool though, as this is only going to cost a fiver more.

Pro Tennis Tour (★★★☆☆☆ £9.99) from Blue Byte is an average tennis game that doesn't look very impressive but plays reasonably well. The graphics are quite blocky and are only displayed in EGA but the players move well considering its age. Pro Tennis has been far outclassed by Blue Byte's follow up Great Courts 2 but is okay for people with low spec machines.

AT THE WHEEL



DRIVING games are supposed to thrill but the action in **Test Drive 2** is somewhat short of thrilling. Although there is a variety of scenery to bomb through, you don't so much bomb as saunter along the highway. Things move slowly, and the representations of the other vehicles on the road aren't particularly inspired by any means.

Even racing head to head against a computer opponent fails to add any spice to the proceedings. In short, this isn't very good, and costing £12.99 it only gets ★★☆☆☆☆.

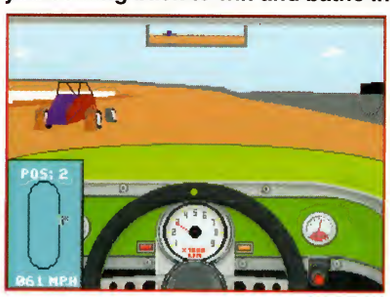
Along similar lines, **The Cycles** (£12.99) offers a full range of tracks, and three different bikes to race them on. Moving from the lightweight 125cc up on to the meaty 500cc certainly takes some getting used too – those corners come towards you a hell of a lot faster. Speed is the problem here, though – there isn't any. The frame update is very slow on a good 486, far slower than it ran on the Amiga. Why? Who knows, but this can only be rated as a ★★☆☆☆☆.

On a brighter note, we award **Hard Drivin' 2** ★★★★☆☆ for its accuracy and faithfulness to the arcade version. Selling for £12.99, this game is identical in terms of graphics and gameplay and is every bit as hard as the arcade machine.

Five tracks are included with both stunt and speed versions of each. The stunt sections make this game: They are superb fun – dodging a truck coming the other way along a massively banked turn is hair raising stuff.

Indianapolis 500 (★★★★★☆ £14.99) was Papyrus's first steps on to the race track and is a fine racing classic. Set up your car to race around the oval track and do your best to win. Although Indy has been far outclassed by its sequel Indycar Racing, it's still an ultra fast realistic racing sim.

Its major feature is the ability to go the wrong way around the track – take your pick between the Indianapolis 500 or Deathrace 2000. It's let down by the single track racing but there's enough here to keep you coming back to win and bathe in champagne.



Mario Andretti's Racing Challenge (£12.99) tries to outpace Indycar, but ends up off the track and in the pit lane (★★☆☆☆☆). Some of the cars you have to drive look like shoeboxes on wheels and the gameplay weighs in heavily on the frustrating side of tormenting. No real feeling of control or realism is generated by the simulation engine. Sorry Mario, but this just isn't up to scratch.

Still behind the wheel, **Grand Prix Unlimited** (£12.99) promises much, but delivers little – so we also give it ★★☆☆☆☆. Including a full track designer, variable weather conditions and a host of other options, the racing fan's appetite will certainly be stimulated. That is, until he or she gets out onto the track.

The graphics and scrolling are on the shaky side, and the feeling of driving a Formula One car isn't even remotely replicated.

BEAT 'EM UP

WHY bend the rules when you can break them? The slogan written on the box of **Low Blow** (★★☆☆☆☆ £12.99) describes the tactics of the game: Break the rules by kicking and gouging your opponent.

The graphics are awful and the boxers don't move well at all. Low Blow is ancient and it shows – there's a degree of charm but you'll not play it for long. Some recent shareware releases look and play a lot better.

Want some *in-yer-face* action? No? That's probably just as well, because you aren't going to find it in **WWF Rampage**, despite the claims on the front of the box. The graphics aren't bad but the gameplay is dire and you will soon find yourself tiring of the action, even though it is tag team. It may be cheap at £9.99, but it is best avoided. It gets a mere ★★☆☆☆☆.

More tough man action can be found in **Budokan** (£12.99), but it is of a more disciplined nature. In Budokan you can select which weapon you wish to fight with, from the deadly rice flails to the simple staff. Various opponents can be taken on, from beginners to masters. However, the gameplay fails to stimulate, as the control method is poor, and the animation on the main characters is poor. This is only worth ★★☆☆☆☆.

In **Grand Prix Circuit** (★☆☆☆☆☆ £12.99) the graphics are visually challenged, the sound is aurally challenged and it goes at a snail's pace. Even on a 486 the game moved jerkily and never once created a sense of speed. The other cars move badly and boredom awaits around every bend. Give us Indianapolis 500 any day.

Fancy tearing about forests in a muddy car? **Lombard RAC Rally** (★★★☆☆☆ £9.99) gives you the opportunity. The car moves well and the view of the driver changing gear as you accelerate is quite an original idea. The game isn't too challenging but it doesn't look too bad for its age.

Stun Runner (★★☆☆☆☆ £9.99) plays like MegaRace but obviously doesn't look quite as stunning. Race your speed sled across a variety of alien terrains collecting power ups off the road's surface and shoot other racers to win.

This arcade game converted badly and doesn't offer anything to make you play more than once. No feeling of speed is generated and there's little in the way of gameplay here at all.

RE-ACTION

TAITO'S Space Invaders needs no introduction. **Super Space Invaders** (★★★☆☆☆ £9.99) is the same in principle but with different races of alien to shoot down and power ups to collect to increase your ship's firepower.

The concept was an interesting one but it never really lived up to expectation. An interesting novelty game that holds your interest for a time but nothing like the classic it could have been.

Guide Mel Gibson on various missions that involve shooting people and leaping about the place, a bit like the films really in **Lethal Weapon** (★★★★☆☆ £9.99). It is a straightforward platform game with bags of charm and plenty of challenge. Things get a little boring after a time and if you don't see the attraction in bounding about aimlessly shooting things then steer well clear.

Robocop3 (★★★★★★ £14.99) is another 3-D classic from DID. Complete various missions for the good of the people and kill the hijackers in the OCP building. Fight to the death against a cyborg ninja, shoot troublesome punks on the streets and climb in the Robocar and hunt down the villains in their van. The 3-D jetpack flying mission is a game in itself and well worth the money. A welcome addition to anyone's collection.

I don't know what Matt Groening would say about this incarnation of Bart, probably not a lot. **Bart vs. The Space Mutants** (★★★☆☆☆ £9.99) is a simple and harmless platform game that would probably appeal to children.

Guide Bart around the various levels and spray all the purple objects red as the aliens can use the purple objects in their war against the human race.

A few of the cartoon's characters show up from time to time and add to the humour content, but not enough to hold any long term appeal.

● *Watch out for next month's* PC HOME *when we will look at the rest of the Hit Squad range. For more information on any of the games featured here, contact Ocean on 061-832 6633.* PCH

THAT BIT BETTER THAN THE REST

17 BIT SOFTWARE Est. 1988

QUALITY PD & SHAREWARE

NO HIDDEN CHARGES - NO GIMMICKS - JUST GREAT SHAREWARE AT REALISTIC PRICES WITH THE QUALITY OF SERVICE YOU EXPECT.

ALL OUR PRICES ARE INCLUDE OF V.A.T. THERE ARE NO HIDDEN CHARGES & NO HIGH POSTAGE RATES.

WHERE NECESSARY, HIGH DENSITY DISKS WILL BE USED AT NO EXTRA CHARGE.

SPACE & ASTRONOMY CD ROM
Over 1000 Images of Earth, The Planets & Space from NASA's Deep Space Probes. Over 5000 Astronomy texts dating back to 1962! are also included. Only £19.99 + 75p P&P.

SIMTEL CD ROM
650 Mb of programs covering every use! Contains source, programming tools for almost all major programming languages, BBS systems + loads more. £19.99 + 75p P&P.

GIGA GAMES CD-ROM
This really is a state of the art gaming resource! Thousands of games for both Windows & Dos Includes just about every category you can mention. £19.99 + 75p

CICA WINDOWS CD-ROM
650Mb of Utils, Drivers, Comms, Icons, Bitmaps, Games & loads more! If it's Windows related, it's on here. £19.99 + 75p Postage & Packing

GAMES

D0422 **ANCIENTS 1 DEATHWATCH** Popular Adventure
H0421 **MUTANT SPACE BATS FROM DOOM** Nice SE up
D0420 **(2) FANTASY FOOTBALL** Soccer Management etc
D0410 **EPIC BASEBALL** 256 colour VGA Sports sim!
D0409 **CAPTURE THE FLAG V14** Award winning game!
D0408 **GALLEONS V10** Multiplayer ship v ship VGA
D0407 **EXCELSOIR** Massive Ultima typ RPG
D0406 **RANGER FOX** Hot Korean arcade game VGA
D0405 **HOWITZER** VGA Land Battle tank sim
D0404 **REAPING THE DUNGEON** VGA dungeon strategy
D0403 **BILLY THE KID** 3D VGA Western arcade adventure
D0402 **CONSTRUCTION BOB** Great 50 level VGA game
D0401 **JELLY BEAN FACTORY** Very addictive VGA puzzler
D0400 **BIODOMES** Superb space invaders clone
D0399 **BOLO ADVENTURES III** Mind boggling puzzle game
D0397 **CRUSHER CASTLE II** Adventure/strategy/acrade
D0396 **EARTH INVASION** Space dogfighting game
D0395 **MISSION ENIGMA** Arcade/RPG, awesome!
D0394 **WALL ST RAIDER** Corporate takeover sim
D0393 **NETHACK V3.1.3** Great freeware dungeon game
D0392 **WORLD EMPIRE II** Game of world domination
D0391 **FINTRIS** Tetris variant with excellent GFX
D0390 **HUMONGOUS CAVE** Superb 1000 point adventure
D0389 **MAHJONG 4.1** Latest version of this addictive game
D0388 **WARWIZARD** Ultima style RPG. Great!
D0367 **COLOURS** Columns game for PC
D0366 **ADVENTURES OF CAPTAIN COMIC** Great GFX adventure
D0365 **CLASSIC SPACE INVADERS** Need I say more
D0364 **CIVIL WAR** Game based on US Civil War
H0363 **PREMIER CHALLENGE** Top quality football management
D0362 **ONE NIL** Collection of management games
D0352 **ZONE 66** Superb scrolling arcade game
D0351 **BODYCOUNT (2)** Superb new fighting game
D0350 **XARGON** New from EPIC 256 colour arcade adventure
D0349 **ELECTRO MAN** Good platform puzzle from Epic
D0348 **SIM SPACE v24 (2)** Spaceship flight & combat sim
D0347 **DUKE NUKEM II (2)** Utterly superb sequel!
D0254 **EGAROIDS** Meteoroids type game
D0251 **HEARTLINE** 20 levels Fiendish!
D0250 **LAST OF THE FREE** Great shoot em up!
D0243 **MORAFFS ESCAPADE** Multi level aracde action
D0240 **DUNGEON OF THE BEAST** Graphic adventure
D0226 **FBI FRED** Arcade action/puzzler
D0217 **GOAL!** World soccer management
D0185 **SCORTCHED EARTH** Classic tank v tank action
D0183 **BATFISH** Submarine combat sim
D0182 **STARFIRE** Galaxians style shoot em up
H0181 **SOLAR WINDS** Space arcade adventure. Superb
H0180 **KINGDOM OF SYREE** Epic fantasy adventure
D0179 **MORAFFS WORLD** Great beginners D&D adventure
D0178 **LAST HALF OF DARKNESS** Adventure. Great
D0177 **PACKRAT** Scrolling 256 colour adventure. VGA
D0176 **ELFLAND** 4 way scrolling graphic adventure
D0175 **HUGO III** Jungle of Doom
D0174 **HUGO II** Another 3D EGA extravaganza
D0173 **HUGO** GFX adventure similar to Sierra games
D0171 **MORAFFS REVENGE** 3D Dungeons game
D0170 **DRACULA IN LONDON** Adventure with good GFX
D0087 **DARK AGES** Protect your invaded Kingdom
D0086 **CRYSTAL CAVES** Enormous platform game
D0085 **SECRET AGENT 006** Great platform action
D0084 **REDUKE** More levels for Duke Nukem
D0083 **DUKE NUKEM** Save the world... again
D0082 **COMMANDER KEEN 1** Marooned on Mars
D0081 **COMMANDER KEEN 4** Goodbye Galaxy
D0080 **COMMANDER KEEN 6** Aliens ate my Babysitter
D0079 **KEEN DREAMS** Latest Keen adventure
D0078 **MAJOR STRYKER** 4 Way parallex scrolling Shoot em up.
D0077 **CATACOMBE ABYSS** Apogee 3D role play
D0076 **SPEAR OF DESTINY** Superb Wolfenstein sequel
D0075 **WOLFENSTEIN EXTRAS** More levels etc
D0074 **WOLFENSTEIN** Classic 3D Castle adventure
D0073 **BIO MENACE** Another hit from apogee!
D0072 **BLAKESTONE** Aliens of gold. Like Wolfenstein
H0071 **DOOM (2)** The PC game to own. 4 Meg required
D0070 **JILL OF THE JUNGLE** 16 level platform game. Great!
D0068 **ISLANDS AT WAR** Superior Risk game
D0061 **MAHJONG** Addictive Oriental tile game
D0057 **HOSTILE TAKEOVER** War/strategy game
D0047 **FAIRY GODMOTHER** Great platform puzzle game
D0039 **JETPACK** Platform action with a Jet Pack!
D0027 **SAVE OUR PIZZAS** Follow up to Back to the Forest
D0026 **BACK TO THE FOREST** Excellent platform game
D0023 **KLONDIKE EGA** Nice card game
D0021 **EPIC PINBALL** 1st table, superb sim!
D0020 **STELLAR EXPLORER** Space role playing game
D0018 **LLAMATRON** The Jeff Minter classic!

WINDOWS GAMES

D0312 **CARD SHARK** Computer tutor for bridge
D0311 **BRAIN GAMES** Great collection of teasers
D0292 **WINRISK** Great Risk clone for Windows
D0291 **SOKOBAN** Another classic for Windows
D0290 **EMPIPE** Addictive pipe laying game
D0198 **MAHJONG** Windows Oriental tile game
D0196 **SLOT MACHINE** You win some...
D0195 **DARE TO DREAM** Excellent 2Mb adventure
D0194 **SPACE CONQUEST** Strategic colonisation/conquest
D0193 **STELLAR EXPLORER** Space strategy/exploration
D0192 **PENDULOUS** Windows warfare strategy game
D0191 **NAME THAT NOISE** Windows sound trivia
D0190 **JEWELS** Tetris clone with jewels
D0189 **SEARCH & DESTROY** Battleships game
D0188 **GNU CHESS** Requires Windows V3.0+
D0187 **COLLOSAL CAVE** The classic adventure
H0186 **CASTLE OF THE WINDS** Great RPG

APPLICATIONS

H0419 **GRAPHICS WORKSHOP V1.1J** Windows latest version
D0417 **SIGNWRITER V4.2** Sign language Word processor
D0387 **NEOBOOK** Make impressive books, newsletters etc
D0360 **NEOPAINT FONTS 2** 20 more fonts for Neopaint
D0354 **NEOSHOW** Make slideshows from PCX or Gif files
D0353 **AVAGIO LITE** Excellent new Desktop publisher
D0333 **PIXFOLIO** Image catalogue system for Windows
D0318 **IMAGE ALCHEMY V1.6.1** Image format conversion
D0317 **PROVIEW 2 V3.20** Graphic image work centre
D0296 **PAINT SHOP PROFESSIONAL** Image conversion. Req. Win
D0210 **BROTHERS KEEPER (5)** Geneology program
D0206 **WEATHER PRO V2.3** Meteorological program
D0136 **CAPTURE** Professional image capture program
D0135 **FAMILY TREE JOURNAL** Great Geneology program
D0129 **SIGNSMITH** Create letterheads etc
D0128 **NEOPAINT V2.1** Superb paint package
D0126 **RMORPH** Great morphing package
D0117 **GRAPHIC WORKSHOP V6.1** Supports photo CD
D0112 **DATASHOW** Presentation program for screens, text etc
D0108 **LABELMASTER V5.1** Design & create labels
D0088 **PAINTMAN** Windows paint prog. Req 4Mb Ram

FINANCE / BUSINESS

D0412 **EXECUTIVE ADDRESS BOOK V3** Keeps track of everything
D0411 **BOXER V6.0** Top rated text editor
D0358 **FREEWAY PAYE MASTER** Top selling payroll package
D0357 **FREEWAY LEDGER MASTER (3)** Full blown accounting
D0356 **PAGE FINANCIAL CONTROLLER (2)** Ideal for small bus
D0355 **625 BUSINESS LETTERS** Letters for all occasions
D0338 **FORMS UNLIMITED** Create, edit and print custom forms
D0222 **SIMPLY LABELS V4.1** Superb. Many featured label prog
D0214 **GALAXY V3.0** Superb Word processor
D0212 **DATAMAGE** Good database utility
D0209 **BREEZE V5.0** Word processing package
D0133 **ENVISION PUBLISHER** Full featured WP/DTP
D0132 **AMAZIN BOOK KEEPER** Great ledger program
D0123 **PAGE CHEQUE BOOK** Cheque book manager
D0122 **WAMPUM** DBASE III type database
D0121 **PRINT BUSINESS CARDS** Budget card printing program
D0118 **INSTACALC (2)** Simple to use spreadsheet
D0109 **ENVELOPE PLUS** Envelope address database
D0100 **ADDMASTER** Word perfect datbase

CAD PACKAGES

D0332 **PC CAD 3D V1.10B** Excellent 3D CAD package
D0329 **MASTERGRAPH V4.43** 2D graph plotting program
D0328 **PC DRAFT CAD V3.06G** Full PC CAD program
D0327 **DRAW 256 V2.21** VGA/SVGA drawing package
D0325 **BCAD 2D V1.00** Plot, draw & print to scale in 2D
D0130 **IMAGE 3D** Wireframe 3D image creator
D0120 **KWIKDRAW** CAD program for Windows

GENERAL UTILS

D0424 **MPAINT V3.8** Good icon editor for Windows
D0336 **SURVIVAL UTILS V5.21** 28 utils from archive to benchtest
D0335 **COLOURVIEW V0.97** Jpeg, Jfif, GIF & BMP file viewer. WIN
D0334 **OCR** Windows optical character recognition prog
D0331 **DEMO WORKSHOP V1.0** Create your own demos!
D0330 **MAKEAMESS** Awesome VGA graphical maker & presenter
D0324 **BIGTEXT** Turns text files into executables
D0321 **WINPROOF** Grammer check for Windows
D0320 **WINBATCH** Write Windows batch files
D0319 **PRETTY GOOD PROTECTION** The standard for security
D0314 **CUSTOM MENU V1.5** Fully configurable menu system
D0313 **MINIMENU** Easy to use for kids who find Dos hard
D0310 **INFOPLUS** Reports on your PC's config
D0228 **WINHIDE** Jump between Dos & Windows
D0223 **BANNERIFIC** Make your own banners
D0213 **SECURITY TOOLKIT** Compilation of security programs
D0124 **FLEXIBACK PLUS** Great file backup and restore prog
D0115 **TYPEQUICK V6.0** Keyboard tutoring program
D0113 **PKTOOLS V2.04** PKZip, PKUnzip etc
D0111 **NIFTY** 50 Dos command extensions for batch file use
D0106 **GRABBER V3.96** Screen capture program
D0095 **ARJ 2.6** File compression software
D0093 **SYSCHK** Program that reports on PC's complete config

COMMS

D0415 **MODEM DOCTOR 5.2** Test all ports, modems, hardware etc
D0414 **GUIDE TO INTERNET** Invaluable computer guide to Internet
H0413 **TERMINATE 1.4** The only communications program to use!
H0146 **SOFTERM** Superb Windows comms package

EDUCATION

D0418 **MATHS CASTLE** Defend your castle by solving sums
D0386 **PHYSICS COLLECTION** 5 Progs for A level Physics students
D0385 **WORLD ATLAS** World data reference
D0384 **FINGERMAPS** World map drawer and plotter
D0383 **MOSSMANS SPELLCHECKER** Age 2-8. Req. Soundblaster
D0382 **GRAPHITI V1.05** Plot 2/3D Polar functions. A level standard
D0381 **SPELLER JONES** Spelling for 6 to 15 years
D0380 **MATHS WORKSHEET GENERATOR** GCSE standard
D0379 **MERCURY EQUATION SOLVER** GCSE standard
D0378 **OPERATION DESERT STORM** The full story
D0377 **ADVANCED ENGLISH TUTOR** High level English
D0376 **STUDDY BUDDY** Home tutor for Geography students
D0375 **ANIMATED ALPHABET** Colour VGA Age 3+
D0374 **ANIMAL FARM (2)** Classic book + questions and games
D0373 **123-TALK** Talking counting book for 2-7 years
D0372 **PC DOS TUTOR** For those who are struggling
D0371 **PENDULUM** Set of science experiments for 12+
D0370 **ADDIT** Simple maths for 2-6 year olds
D0369 **ALGEBRAX** Algebra/Maths prog. Needs colour VGA

ORDERING

BY PHONE
(0924) 366982
Access Visa Switch
We now accept
AM-EXPRESS

BY FAX
(0924) 200943
Please leave your order & Credit Card Details for fast same day despatch.

BY POST
Please send Cheques/POs to:-
17 BIT SOFTWARE
PC DEPT, 1st Floor Offices,
2/8 Market Street, Wakefield,
West Yorkshire WF1 1DH

DISK PRICES
1-10 DISKS .....£2.00 EACH
11-20 DISKS .....£1.75 EACH
21 OR MORE.....**£1.50 EACH**
1 FREE WITH EVERY 10 YOU BUY!
P&P IS 50p PER ORDER

Fancy a change in career? This could be just what you're looking for – a new course in computer games design. Rob Smith investigates

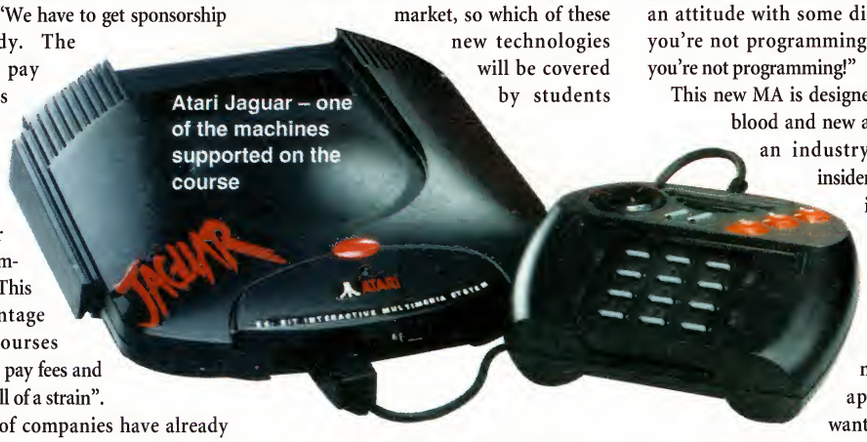
Designing by degrees

ARE you over 21? Do you have a degree or experience of programming, graphic design, animation or music? Would you like to jump on the growing computer games bandwagon? If the answer is *yes*, Middlesex University could have a course right up your street.

A brand new MA (Masters Degree) in Design and Production of Interactive Games – or the *mad pig* as it's affectionately known – begins in October. Programme leader Julian Saunderson is looking to recruit around 16 students with either qualifications in computing or graphic design or experience of working in these areas. You'll also need a strong desire to enter the fast moving world of video games.

Of course, financial constraints rear an ugly head in these proceedings. Julian is in the process of kidding and cajoling companies into offering sponsorship for both the course and the students.

As he says: "We have to get sponsorship for everybody. The sponsors will pay the student's fees which are £5,400 and then there are the living grants for which we recommend £4,500. This is a big advantage over other courses where students pay fees and expenses – a hell of a strain".



Atari Jaguar – one of the machines supported on the course

A number of companies have already expressed an interest, including Domark and Sega. Many PC developers are keen but Julian was reluctant to give names. It's safe to say that those involved in the course do not underestimate the importance of the PC as a games machine.

The next stage is turning the support and backing of the companies into hard cash or equipment and software.

Sega are one hardware company who have done the decent thing and helped with some development equipment for their machines.

Tomorrow's world

ENTERTAINMENT technology is moving forward at a startling rate. New machines are appearing from a number of different companies, all supposedly offering the consumer better graphics, sound and applications than the competition.

Along with the likes of Apple and many PC manufacturers, Sega and Nintendo are just two companies bidding for superiority in the new world of multimedia entertainment. Atari with their Jaguar, Sony's PS-X, 3DO and Philips' CD-i are all here or on their way.

Not all will survive in this competitive market, so which of these new technologies will be covered by students on the course? "We're hoping that by next year there will be a more limited choice", says Julian. "We also accept that there could be a reluctance from the industry to give us their cutting edge gear".

What about the programming of the games themselves? Julian hints at some discrepancy over views and ideas of which route is, exactly, the way ahead: "There's a big discussion as to whether we should be teaching C at all or just concentrating on Assembler.

"I feel we should be teaching C since I don't think the orientation to Assembler is going to last for ever. Unfortunately, there's an attitude with some die-hards that if you're not programming in Assembler, you're not programming!"

Could the next Sim City come from a university?

This new MA is designed to bring new blood and new approaches into an industry which many insiders feel is stagnating. It's a few years since the God games – Sim City, and the like, the last genuinely original game genre – appeared. "We want to get the creative juices flowing", says Julian, "not just say *this is a great new shoot-'em-up, adventure or whatever*".

The general idea is to pool the students' specialisation's in order to create a top game. Julian says: "It's very much group-orientated work. We hope that students will feed off each other as much as they feed off us.

"It can do no harm to understand some of the issues and problems involved in other areas of the work. But we're not trying to turn programmers into designers or graphic designers into musicians.

"We do want to give a common understanding so that they can learn the restrictions of, for example, doing artwork from the programmer's point of view: Why they're limited in colours, size and so on".

On top of this a new BA in Design and Technology of Video Games begins in October 1995. This three-year degree course will give the students a grounding in many aspects of the games design process.

"In the second year the students specialise in one of three pathways: Software engineering, graphic design or music and audio. Through industry simulations we want to show the wider perspective of the games market", Julian commented.

This does mean that in a few years the students of Middlesex University will be churning out a number of games. Will these ever get published? Julian hopes so: "We'd like to find a way of making a profit out of the games. This money would then go back into the course for future years. I don't see us developing a full scale game in the short term but we may be able to sell prototypes and ideas. It's early days yet".

Games are finally being accepted as a serious art form. This course, Julian hopes, will provide the future pioneers of the industry. "An aim is to get to a point where we produce the people who will be taking the jobs at the cutting edge of games design. Modesty overriding, this is a long way down the road. We'll have to wait and see".

● *For more information on the Design and Production of Interactive Games courses, call Middlesex University on 081-362 5000.* PCH

Pete Hawley shows you how to make your £1,000 PC emulate a machine which is over 10 years old and cost £150. Sad really isn't it?

RETROSPEC

TWELVE years ago saw the launch of what many consider to be the first dedicated home computer, the Sinclair ZX Spectrum. It was small, it was black and it had a rubber keyboard – hardly a giant in the design world but its impact was massive. As the Spectrum disappears into the mists of time, fond memories of the simple, rectangular black box and its games linger on.

The initial machines were installed with a whopping 16k of memory – yes that's kilobytes, and later the same year a 48k model was released. Spectrum owners became the envy of game players everywhere.

While Commodore Vic-20 owners struggled with 3.5k, the 48k Spectrum became the darling of the software industry in the UK and over a period of six years reigned supreme.

When you consider the Spectrum's memory was five and a half times smaller than your average PC disk cache, you can fully appreciate the programming skill that went into the production of games. Classics like Jet Set Willy and Lords of Midnight were absolutely huge and offered hours of rewarding game play.

The likes of Ocean, Gremlin Graphics, Domark and Digital Integration all owe some part of their success to the games market of the early 80s and the phenomenal success of Clive Sinclair's brainchild.

To the limits

GAME developers for the Spectrum grew in their ability to produce stunning software as the years progressed. The Spectrum was just a Spectrum and offered little in the way of upgrades to improve its performance.

Over the years, programmers had to push the black box of tricks to its limits and towards the end of the Spectrum's life the games available were barely recognisable compared to the software of the early 80s.

Now, of course, we are expected to upgrade our machines to maintain playability and programmers no longer have to push the PC as far as it can go. Everybody knows a new processor or video specification is waiting in the wings.

Many of the new PC CD-Rom titles have been criticised for being visually and aurally superb but lacking somewhat in the gameplay department. No one in their right mind could compare the PC today with a Spectrum but maybe publishers could learn a few lessons from the old games. It's all too rare these days to find a game that echoes the sounds of "just one more go" around the home.

Using a software emulator, you can turn your PC into a Sinclair Spectrum and the reliability is usually 100 per cent. The PC speaker identically replicates the bleeps and blops of the Spectrum's internal sound source, the games slow down when the screen gets busy and the colours of the sprites clash with the backgrounds.

One emulator called Z80 can emulate the 48k models and the 128k models and with an AdLib sound card it will emulate the enhanced sound of the 128. The amount of work and detail that has gone into the emulators is astounding.

Thankfully the emulators remove the need to load games from cassette. They now load in a split second – there's no need to go and make a cup of tea while you're waiting only to return to your machine five minutes later to discover a

Emulate to accumulate

AN increasing number of Spectrum emulators are available on the PC, coming from all over the world, all as shareware from various libraries. Like any software they vary in quality, function and speed.

Z80 from Dutchman Gurnt Lunter, is the definitive Spectrum emulator. The amount of detail and functions are to numerous to mention. It will emulate 48k or 128k machines, including the enhanced sounds of the later models. It played every game we tried without crashing once.

When you register, the option of downloading your original tapes and Microdrive cartridges to disk gives the program even more authenticity. The emulation of the original games and software is 100 per cent and it even runs on a 286 with VGA.

The latest registered version now runs from Windows, albeit a lot slower than its Dos operation.

JPP is a fairly average emulator from Norway, although the number of functions is enough to get you up and running. It's not as reliable as Z80 and you need a 386 or 486 with VGA to run it.

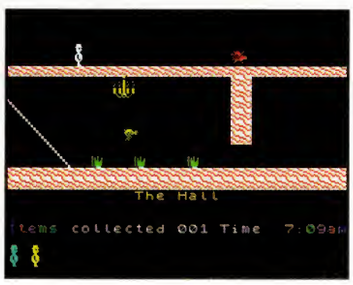
The simply named Spectrum which originates from Spain offers reasonable compatibility but the tape interface is quite slow. Needs only a 286 with VGA, although don't expect it to be too fast on low-spec machines.

We have no documentation for SP from Poland, which didn't

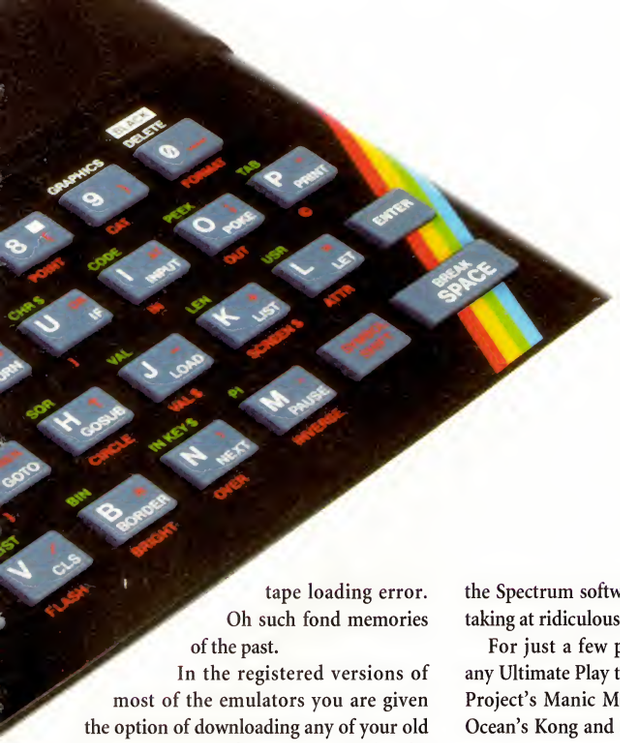
Sabrewulf – intrepid adventuring through a perilous jungle

Nodes of Yesod: Spacemen, teddy-bears – what more can you ask for?

Manic Miner – one of the first platform games ever



Jet Set Willy – the brilliant sequel to Manic Miner



tape loading error.

Oh such fond memories of the past.

In the registered versions of most of the emulators you are given the option of downloading any of your old Spectrum games from tape to disk. The best of the bunch also offer Microdrive support, the hardware add on that greatly reduced loading time.

But if we're honest, the emulators have little practical use, although I guess programmers may find interest in the internal workings of the humble Speccy, typing in endless listings of Basic programs from old magazines, even though they never really worked.

The hours fly by as you load one game after another trying to remember how the thing worked and what you had to do. I was surprised how many of my old tactics worked and the number of people in the office offering tips on how to complete some of the trickier levels of Manic Miner.

Root through the loft and cupboards, scan the newspapers and car boot sales. All the Spectrum software is out there for the taking at ridiculous prices.

For just a few pence you can pick up any Ultimate Play the Game title, Software Project's Manic Miner and Jet Set Willy, Ocean's Kong and Hunchback, plus many many more.

If you owned a Spectrum all those years ago relive your favourite gaming moments. If you didn't, make up for lost time and play some of the best games ever written, for the cost of registering an emulator.

If you feel like dipping your toes in the ocean of software available for the spectrum emulators be prepared to be disappointed by some of the games you considered to be classics. Not surprisingly, they often look very dated.

But, they have style, oodles of gameplay and more than a little charm. Who knows?, in another 10 years we may be sat at our desks running our Intel 986 and scouring the shareware market for software to slow down the processor to run ancient 486 software.

help when trying to get things up and running. Most of the software worked fine but crashed occasionally even when running some Basic programs.

There isn't any documentation for ZX – from the Czech Republic – either, but with a little perseverance we got the software running. Unfortunately the keyboard didn't respond too well while playing some games.

ZX is slower than Z80 but offers excellent tape file support.

Finally we have Specem, from Ireland, which is one of the better emulators available and ran most of the Spectrum software without any trouble.

● *Give some shareware libraries a call to see which emulators they sell. Our favourite, Z80, is available from DM Computing on 0363 775721.*

Jetpac – a true Spectrum classic from Ultimate: Play the Game

Lunar Jetman: Harder than Jetpac but just as much fun

Legal spec?

ALL this nostalgia is all very well but technically speaking the PC disks that are brimming full of classic spectrum games are pirated unless, of course, they are back ups of your original tapes.

Having said that, the Spectrum has ceased production – in some cases the games are 10 years old and the original programmers have made their money and moved on to bigger and better things.

Mike Singleton's Lords of Midnight – the third in the series is in production for the PC now

Amstrad bought the rights to Sinclair which included the product, brand name and logo for the tidy sum of £5 million. Just before we went to press we got a message from them saying that they were not concerned over possible copyright infringements.

So what about the software companies? Do they care that their programs are being pirated?

Gary Bracey, MD of Ocean – a company responsible for Hunchback and Moon Patrol among others, told us: "If people really want to turn their PCs into Spectrums, then as a harmless bit of fun and a nostalgic look into the past, that's fine.

"In no way would we condone pirated software – strictly speaking that's exactly what these old games are, but at the same time we wouldn't prosecute the home user for owning old Ocean games.

"That technology has been and gone and we've done all we can with it in the market. There again if people abused our good nature and started copying and selling our games then that is a completely different matter altogether".

Domark echoed these comments. As long as it remains a hobbyist activity, they have no complaints. Only if someone was making sums of money from selling copied Domark titles, would they intervene.

Gremlin Graphics, had massive success with the likes of Monty Mole.

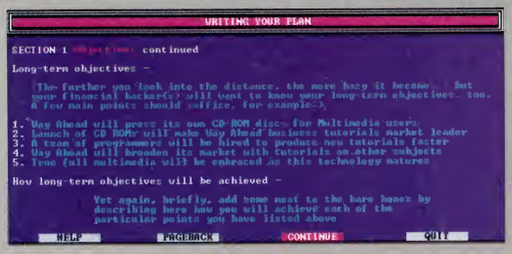
Their PR manager, Steve McKevitt, told us: "We still hold a lot of fond memories for the old Spectrum games. We don't want to be seen as killjoys but would expect people's common courtesy by simply asking permission before they copied any of our old software". You can't say fairer than that, can you?

Atic Atac – an original and charming graphic adventure

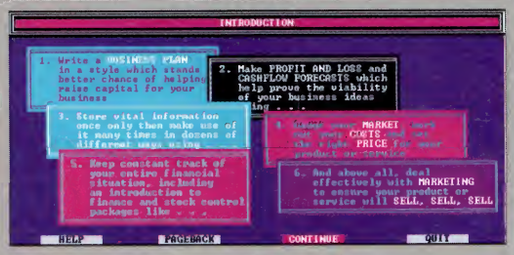
So the message seems to be the same across the boards. If you want to play your old Spectrum games on the PC, do so with respect and don't abuse software companies' good nature or it's likely that opinions could change. PCH

GOT A BUSINESS IDEA?

GOT A PC?

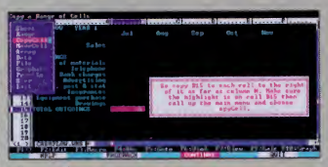


Writing the plan made easy



Welcome to the business learning centre!

Then we can give you a HEAD START!


Spreadsheets made easy

Now everyone can do bookkeeping

If you're starting a new business, or injecting new vitality into an existing one, *How To Start A Successful Business* has all the answers you need. This two-disk set – Nos. 1 and 2 in the Head Start series from Way Ahead – will help you to: ● Conduct market research that will really make a difference ● Write a perfect plan ● Raise finance ● Keep meticulous books. It will also teach you how to choose and use software, and check your progress every step of the way. You only have to see what experts and customers are saying to realise that Head Start is *THE* way to learn. Why put it off any longer? The answers are here . . .

● "A valuable item of software" – business management consultancy, Henley-on-Thames

● "Interesting . . . Helpful . . . Extremely good value for money" – Enterprise Magazine

● "Very Informative" – T.C., Faulkland, Northumberland

Runs on any kind of PC, Colour or Mono, in DOS or as a Windows DOS session.

Send cheque or postal order now. Disks sent by return post (3.5" only). The best business move you ever made costs just **£19.99 from:**

WAY AHEAD
27 Woodford Green, Bratton, Telford, Shropshire TF5 0NS
Telephone enquiries: 0952 243153

FREE MULTIMEDIA VIDEO!

FREE MULTIMEDIA VIDEO!

FREE MULTIMEDIA VIDEO!

FREE MULTIMEDIA VIDEO!

Got the message yet? Couldn't exactly miss it could you? Just like you couldn't miss our new multimedia video. Our action-packed VHS video is all about our custom-built PCs and multimedia systems, and we used one of our multimedia systems to make it. To see how we would build you a system for you to make your own striking presentations, call us, and we'll send you a free copy.

Bits & PCs Ltd **0344 776050**

Tailor-Made Systems You Never Grow Out Of

arena QUICKIES

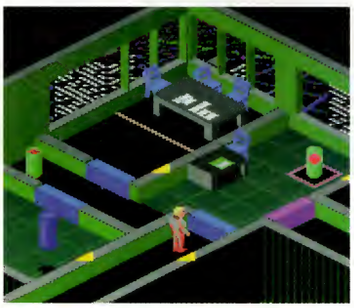
The *PC HOME* team review this month's bag of games that simply couldn't be squeezed anywhere else

An A-Generation emerges from a hatch in the next room

D/Generation for Windows

"VIRTUAL reality meets action adventure" is the extravagant claim made on the front of the box. This doesn't refer to the actual game, however, but the plot. You play the part of a courier in the year 2021, who has jetpacked his way from Finland to the Genoq biolabs in Singapore.

A simple delivery job this certainly isn't, because upon arrival our messenger boy finds things have gone amiss at the lab. Employees are hiding behind their desks and the building's security system has gone berserk.



Some quick moving is required to avoid the tracking guns

Predatory Neogens, genetically engineered killer organisms, lurk around almost every corner. Four types are present, from the relatively slow A-Generation, to the deadly prototype D-Generation. The D-Gen is an artificially intelligent shape changer, and as such is exceptionally dangerous.

As you are locked in when you first enter the building, you have little choice but to carry on with the delivery job. Ten levels must be traversed before you can complete the game. Every floor is made up of a series of rooms, each of which contains a number of reaction-based puzzle elements.

A whole host of traps have to be avoided: Electrified pads, plasma defences, intelligent guns that fire on sighting an intruder – not to mention the Neogens. Although the first two floors are fairly introductory by nature, the game soon becomes much more difficult when multiple Neogens along with other miscellaneous traps are all in the same room.

Along the way various civilians can be rescued. Some of them will even chat to you, possibly supplying some vital object or important snippet of information. Computer terminals can also be tapped for information.

Graphically, this Windows version is a tad sharper than its Dos counterpart, but it isn't full screen, which rather cancels any advantage out. D/Generation is a solid – and cheap – arcade puzzler although sadly, it is rather dated.

Darren Allan

VERDICT

Product	D/Generation for Windows
Price	£19.99
Format	Floppy
Supplier	Mindscape
Telephone	0444 246333

PChome RATING **71%**

Here's one I completed earlier

Daily Telegraph Crosswords For Windows

PUT an end to big, bulky newspapers and getting your hands covered in news print, Crosswords for Windows offers you a clean, crease free alternative. There are 200 crosswords taken from the *Daily Telegraph*, divided into two categories – quick and cryptic – so you can choose the level of difficulty and challenge yourself accordingly.

This package is not simply a list of clues and a grid – various features are available to help you complete the puzzle successfully. The cheat modes give you a nudge in the right direction should you need it.

The first of these – the letter hint – will just reveal the first letter of an answer and leave you to do the rest. However, you also have the option of revealing the whole answer. This can often present too much of a temptation to ignore and if you are not careful you end up using it far too often and before you realise it the crossword is finished with the minimum use of brain power.

I must admit to being very glad of this cheat mode or I would still be trying to work out several particularly perplexing clues, the answers to which I would have had no chance of ever guessing.

The grid and clue list can be customised to suit your particular taste: A selection of fonts is available and you can change the colours to make the crossword more interesting to look at.

When you have successfully completed a clue it is automatically marked, making it easy to see how many there are left to go. As you go through the clues each one is highlighted in red and there is no need to search through the grid as the corresponding squares are also highlighted. This was a relief as the numbers are particularly tiny.

The save and restore facility certainly comes in handy when the boss spots what you are doing and insists that you do some work (*Excuse me! – ed*).

Saved work is highlighted on the menu so there is no need to remember where you are up to. Fully completed crosswords are also highlighted with a tick, avoiding the annoying situation of going back over something twice.

All in all this is a good package that would appeal to puzzle buffs and is a pleasant distraction for half an hour for those who are not. It's well thought out and I encountered no obvious problems.

It is, of course, limited in that when you've done the 200 crosswords you've explored all its capabilities but it isn't too expensive, costing around £25. It may not be as interesting as many PC games but it certainly doesn't contain any sex or violence!

Justine Bowden

VERDICT

Product	Daily Telegraph Crosswords For Windows
Price	£24.95
Format	Floppy
Supplier	Word Games For Windows
Phone	0702 468029

PChome RATING **70%**

Target the enemy and flood the torpedo tubes

Confronting a mobile missile launcher face to face

Wolfpack

WOLFPACK is a re-release of an early game from NovaLogic the creators of Comanche. This new version on CD-Rom looks and plays identically to the original but with the addition of a further 58 missions.

Before play commences you can choose to play as an Allied Escort Commander or lurk beneath the waves as a German U-boat Captain. The game gives the option of playing the hunter-killer submarine or the task force commander.

When the intro finishes the main menu pops up and asks you to start a mission or watch a demo game which also acts as a short tutorial.

The major problem with having this many missions is that after a while they begin to repeat and you get a feeling of *déjà vu*. To help this Wolfpack includes a mission construction set – if you're getting fed up with NovaLogic's scenarios, create your own.

The controls are easy to understand and you can dive in (*Oh very funny – ed*) without getting lost in too much manual studying. The missions begin with a simple seek and destroy scenario but before long they develop into quite a serious challenge.

All the action takes place in a small window in the top right of the screen. It's just a bit too small to see what's going on and the gameplay suffers for it. The main screen where the dictation of your forces takes place looks a little cluttered and doesn't add any variety to a rather bland looking game. In its day Wolfpack was quite an impressive naval fighter but now looks a little wrinkly.

Nothing has been done to improve the interface or gameplay despite Wolfpack being over three years old, which isn't really clever when it's being re-released at full price.

If you are a fan of the original, no doubt you'll be enthralled by the number of new missions, but if you are new to submarine and naval sea battling you would be better off looking at Electronic Art's Seawolf for a more up-to-date and detailed experience.

By far the most outstanding part of the CD-Rom is the new animated intro sequence. It's one of the most impressive introductory animations to date. It begins with the submarine sinking beneath the waves in a stormy setting. The light sourced sub then sneaks around with the waves rippling along the bows. It scrolls so smoothly, it is impressive to say the least.

Shark attacks don't pose a serious problem

Sadly Wolfpack itself is nothing more than a rather average game as a standalone product.

Pete Hawley

VERDICT	
Product	Wolfpack
Price	£29.99
Format	CD-Rom
Supplier	NovaLogic
Telephone	0494 488551

PC home RATING **64%**

Comanche CD

WAR – What is it good for? Computer simulation, that's what, and NovaLogic's helicopter-based visual extravaganza makes gunning down the enemy as much fun as it has ever been. Not that I enjoy mindless violence for the sake of it of course.

Comanche was received with critical acclaim when it was first released, but the second data disk, Over the Edge, made even more impact, turning a good game into a better one.

The good news is that all the missions ever produced for Comanche are included here – 100 of 'em. On the downside, the meaty soundtrack, explosive FX and all the hallmarks of a CD-Rom game aren't present.

What you get is Comanche pure and simple, with no alterations made from the floppy version. In effect, all the CD version does is take up a lot less space on your hard drive – a mere 1Mb instead of 12Mb or more. Comanche is still a classic, certainly graphically stunning and extremely smooth, offering a great deal of challenging gameplay. Nevertheless, I expected the CD-Rom version to be at least improved in some respects. Only a minor enhancement has been implemented, namely the inclusion of one extra campaign – comprising 10 missions. On the whole this is somewhat disappointing, but the overall mark still reflects the high quality of the game as it stands anyway.

Darren Allan

These little 'copters may look innocuous, but they are deadly foes, armed to the teeth with rockets

Argh! Look out for that tree!

VERDICT	
Product	Comanche CD
Price	£49.99
Format	CD-Rom
Supplier	NovaLogic
Telephone	0494 488551

PC home RATING **81%**

CD-ROMs from UNICA LIMITED

The Largest Range The Best Prices The Latest Titles

You pay the 'Bundle' Price when you buy hardware. Otherwise you pay the 'Normal' price which is still amazing value.

	Normal	Bundle
Animals of San Diego Zoo MPC	£29	£15
Art of Multimedia	£20	£10
Arthurs Teachers Troubles	£35	£19
CD Challenge Pack	£25	£19
CD Game Pack 2	£20	£15
Chessmaster 3000 MPC Pro	£29	£15
Composer Quest	£35	£19
Day of the Tentacle	£39	£19
Digital Love	£25	£15
Distant Suns	£79	
Dune	£39	£20
Electronic Lib of Art Vol 1, 2 or 3	£40	£25
F15 Strike Eagle III	£49	£15
Garden of Unearthly Delights	£20	£15
Global Explorer	£79	£69
Great Cities of The World Vol 1 & 2	£29	£19
Grolier MPC Encyclopedia V6	£99	£49
Guiness Disk of Records 1993 MPC	£25	£15
Jurassic Park	£29	£20
Just Grandma and Me	£30	£18
Kodak Photo CD Access	£20	£10
Loom	£30	£15
Magic Lantern	£29	£20
Mavis Beacon MPC	£25	£15
Mega Movies Guide	£34	£30
Microcosm NEW	£35	
Microsoft Art Gallery	£44	£35
Microsoft Cinemania 94	£37	£30
Microsoft Dinosaurs	£37	£30
Microsoft Encarta	£99	£70
Microsoft Multimedia Beethoven	£37	£30
Microsoft Multimedia Mozart	£37	£30
Microsoft Multimedia Schubert NEW	£37	£30
Microsoft Multimedia Stravinsky	£37	£30
Microsoft Musical Instruments	£37	£30
Mixed Up Mother Goose	£25	£15
Monkey Island	£40	£15
Newsweek Interactive vol 1 or 2	£25	£15
Oceans Below	£25	£15
Putt Putt Goes to the Moon	£35	
Rebel Assault	£29	£20
Redshift	£55	£40
Return to Zork	£39	£20
Rom Material	£19	£15
Secret Weapons of the Luftwaffe	£30	£15
Sherlock Consulting Detective II or III	£30	£15
Small Blue Planet	£49	
Space Shuttle	£29	£15
Starwars Chess	£40	
The Journeyman Project	£45	£39
TFX	£29	£25
Time Magazine Almanac	£59	
World Atlas V4 MPC	£35	£15

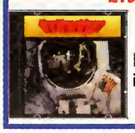
UNICA OFFER
10 CD-ROMS BARGAIN PACK

Time Man of the Year
PC Animation Festival
Kings Quest V Doom
World Atlas Stellar 7
World Fact Book
Best of Media Clips
CD-ROM of CD-ROMs

ONLY £49 or £39 with Hardware !!

THE MOTHER OF ALL CLIPART
23000 PCX Images on a single CD-ROM
£15

IMAGES OF NASA COLLECTION
One of the finest collections of NASA pictures available.
£15



NEW VIEW OF SPACE
From the launch pad into space!
£15

WARNING!!!
Sizzling cool stuff!
All the best music and all the best psycho, rave, punk and twisted graphics found on the electronic highway of Internet
An explosive collection of over 600MB of demos and music from the Sound and Vision BBS.

£19

£9 SPECIALS — £75 FOR TEN

AA Hotels & Restaurants
Anecdote 1,2 ,3 or 4
Bibles & Religion
California Collection
Clipart Warehouse
Computer Reference Library
Deathstar Arcade Battles
Dictionaries & Language
Encyclopedia of Sound
NEW Games Jamboree
Gardening
NEW Halo Desktop Imager
Ham Radio
NEW Hugo's House of Horrors
Hutchinsons Text Encyclopedia
NEW Mantis
Original Shareware
Our Solar System
PC Home Magic of Multimedia V1
PC-SIG V11
Racecar 1001 Utilities
Racecar Business Assistant
Racecar Games Arena
Racecar Learning Adventure
Selectware
Shareware Gold II
Software Vault Vol2
Sound Sensations
Technotools
Too Many Typefonts
Toolworks CD Sampler
Visions of Saturn
World Traveller

£9 SPECIALS — £40 FOR FIVE

HEAVEN CD-ROMS

8 superb CDs covering multiple subjects.

CLIPART HEAVEN
1000s of 300+dpi images inc PCX, TIF, CDR & BMP

SHAREWARE HEAVEN 2
A complete Shareware Library at your fingertips!

WINDOWS HEAVEN
The ultimate Windows Collection

COOKBOOK HEAVEN
Over 20,000 recipes, diet and health, and stress management programme.

ADVENTURES IN HEAVEN
Hundreds of games: challenging, adventurous, exciting, mind-boggling etc.

SOLAR HEAVEN
The best collection of astrology and astronomy applications available.

LEARNING HEAVEN
Hundreds of educational programmes at your fingertips featuring easy to use menu

STRAIGHT FROM HEAVEN
An excellent religious CD-ROM - straight from heaven!

£15 EACH OR £99 FOR THE COLLECTION - HEAVEN!

CALL OR WRITE FOR YOUR FREE UNICA CATALOGUE TODAY

Walnut Creek CDROM

** NEW CICA April 94	£10
The latest update in the CICA series - 660MB of the latest Windows Shareware	
GIGA GAMES	£15
An exciting collection of over 3,000 MS-DOS and Windows games	
SIMTEL October 1993	£10
The latest SIMTEL update contains over 9,000 files of MS-DOS shareware from communications to utilities with lots in between.	
LIBRIS BRITTANNIA	£29
Over 600MB of superb public domain and shareware.	
SPACE & ASTRONOMY	£15
1,000 NASA images, 5,000 text files - too good to miss!	
PROJECT GUTENBERG	£15
HOBBES OS/2 (October 93)	£17
The major Internet distribution site of OS/2 freeware and shareware on a disc.	
GARBO	£25
C USER GROUP (December 93)	£25
Complete collection of user-supported C source code.	
QRZ HAM RADIO	£10
LINUX	£40
Linux (Unix Clone) with GNU & X-Windows (Full source code)	
NOVA NeXT	£35
NEBULA FOR NeXTSTEP	£19
X11R5/GNU	£20
SOURCE CODE	£15
SPRITE	£17
AMINET AMIGA	£10
INFO-MAC	£35
FreeBSD Operating System	£35
NEW FRACCTAL FRENZY	£25
NEW CLIPART CORNUCOPEIA	£15
NEW INTERNET INFO (Great !!)	£15

SHOWROOM OPEN FOR PERSONAL CALLERS

and The Hardware to Use them On

CD-ROM DRIVES

Panasonic Media Pro CR-562

£129 UNICA SPECIAL OFFER INTERNAL DRIVE ONLY

Double-speed, Multi-session, Tray loading, Kodak Photo-CD compatible and it will even plug directly into your SoundBlaster Card.
The Media Pro CR-562 comes with: Opti-CD Caching Program (Increases CD access time by up to 20 times),
Drive with Bundle includes Mantis CD-ROM game by Microprose, AA Hotels & Restaurants Guide CD-ROM, Anecdote Vol 3, F15 Strike Eagle 3 and Halo Desktop Imager with Kodak Photo-CD Access

UNICA SPECIAL OFFER WITH BUNDLE **£159**

EXTERNAL DRIVE £40 EXTRA

ISA INTERFACE (SUITABLE FOR ALL PANASONIC DRIVES) **£20**

NEW LOW PRICES

SOUND CARDS

CREATIVE LABS INC.

Soundblaster Pro Basic (Card Only)			£59
Soundblaster Pro Deluxe			£79
Soundblaster 16 Basic (Card only)			£115
SoundBlaster 16 MCD	£139	AdSP	£169
SoundBlaster 16 SCSI-2	£169	AdSP	£199
Soundblaster 16 AWE-32 NEW			£249
Waveblaster upgrade for Soundblaster 16			£145
AdSP upgrade for Soundblaster 16			£49
Media Vision Pro Audio 16 Basic - to clear !!			£55

PORT-ABLE sound PLUS

Soundblaster and Adlib Compatible
16 bit Sound Card that plugs into your Parallel Port and gives your laptop PC access to CD Quality SOUND !!!

£129

MULTIMEDIA VIDEO CARDS

NEW Creative Labs VideoBlaster SE	£199
Creative Labs TV Coder	£119
Reel Magic - MPEG Video Card	£329
Intel Smart Video Recorder	£375
Screen Machine II - The ultimate card !!	£695

MULTIMEDIA UPGRADE KITS

MEDIA PRO 16 MULTIMEDIA UPGRADE KIT

Panasonic CR562 Double Speed CD-ROM Drive
Genuine SoundBlaster PRO 16 Sound Card
Mains powered Speakersand Microphone

Featuring 5 CDs

Hutchinson's (British) Multimedia Encyclopedia CD-ROM
Return to Zork, Mantis
F15 Strike Eagle III, Halo Desktop Imager

£329 INTERNAL £369 EXTERNAL

TEXEL SCSI DOUBLE SPEED+ CD-ROM DRIVE

If you want the fastest Double Speed CD-ROM drive and reliability - Buy Texel - not Toshiba !!!

DOUBLE SPEED PLUS
Data Transfer rate 335 kbyte/sec
Access time 240msec
SCSI CD-ROM Interface, Photo CD & XA compatible(Multisession)

Free Kodak Photo-CD Access Software

INTERNAL £299 EXTERNAL £379
Trantor T130 Interface Card Extra £45

UNICA LIMITED

UNICA HOUSE · MOWBRAY STREET
STOCKPORT · CHESHIRE · SK1 3EJ · UK
FAX: 061 477 2910

ORDER HOTLINE 061 429 0241

Access · Diner's Club International · VISA · AMERICAN EXPRESS

All prices exclude VAT & carriage (£4.00 per order for CD-ROMs UK £7 Europe*, £10 Outside Europe*, £10.00 Hardware UK)(* Max 1Kg)
E&OE Prices subject to change. Contents of packs may vary.
10% Restocking Fee for Non-Defective returned goods.

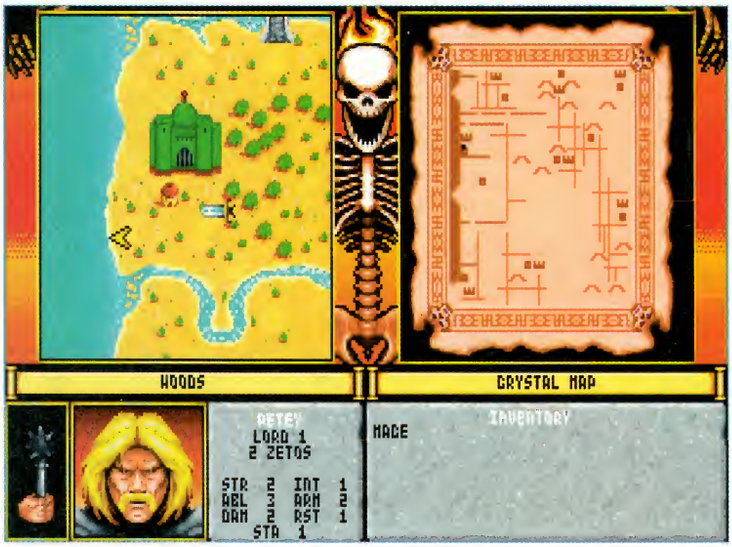
MEDIA PRO SCSI DOUBLE SPEED+ MM UPGRADE KIT

Texel 3028 Double Speed + CD-ROM Drive
Genuine SoundBlaster PRO 16 SCSI Sound Card
with Voice assist, Mains Powered Speakers, Microphone

Featuring 10 CDs

Grolier Encyclopedia, Return to Zork,
F15 Strike Eagle III, Anecdote Volumes 1, 2, & 3 !,
A. A. Hotels & Restaurants Guide, Hot Sound & Vision,
Mantis by Microprose and Dr Halo Desktop Imager.

£549 INTERNAL £629 EXTERNAL



This is you wandering the landscape – nice handle

Red Crystal

RED Crystal is a role-playing game from QQP. Starting the game you take the part of a huge floating sword that wanders the land *interacting* with other races and characters. When I say interacting I mean it in the broadest sense of the word.

When you come into contact with other swords you enter into conversation whether you like it or not. This is more than a little frustrating when there are a lot of swords. Your ultimate goal is to discover the seven secrets of life by visiting various characters and then move onward to destroy Lexor, the evil tyrant of the ancient cities.

When your sword reaches a building or structure the game switches to the inside of the building. Your character changes from a sword to a small blocky man with no shirt and green trousers.

The bad guys within the walls of the castles make a bee line for you without stopping to ask questions. It was during one such visit to a medieval abode I came across a maggot. When the inevitable happened and he bumped into me I was offered the chance of fighting him or offering him a bribe. Bribing a maggot? I ask you.

Red Crystal is about as much fun as peeling potatoes, without the excitement of finding a mouldy bit. The only question you ask yourself is: "Why does this game come on five high density disks? And where has 7.5Mb of my hard disk space gone?"

Its one saving grace must be the sheer size of the game world. Where else can all that disk space have gone? Not on the graphics, not on the sound and certainly not on the game engine.

There is a new world to explore, but it's so tacky. The loud flashing colours that make up the main screen look awful The graphics are blocky and simple – they don't exactly inspire you to devote hours of your time playing this completely amateur attempt at a role-player.

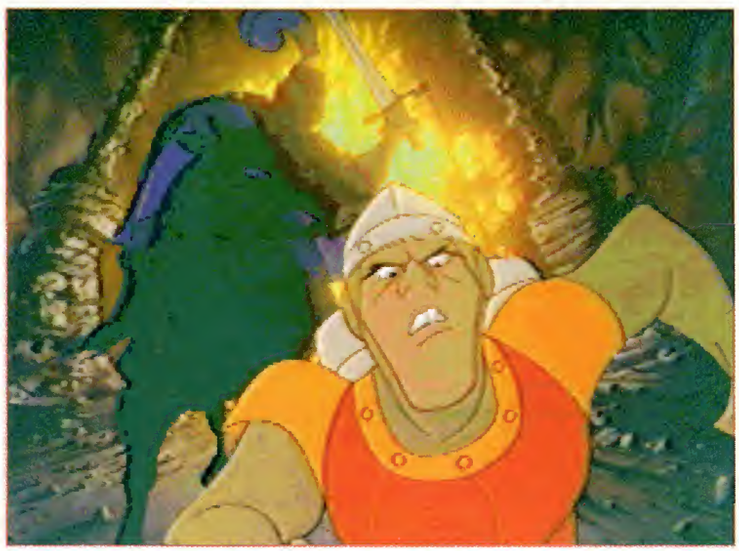
In fact, the only role you want to play is the one where you go back to the shop and pretend it didn't work so you can swap it for something else.

Pete Hawley

VERDICT	
Product	Red Crystal
Price	£44.99
Format	Floppy
Supplier	Mirage
Phone	0260 299909

PC home RATING 24%

I hate these disappearing floors



The black knight is poised to strike

Dragon's Lair

RESCUING the fair Princess Daphne from the clutches of the evil dragon Singe is your task in this venerable test of reflexes. Dragon's Lair has been around for absolutely ages and was always a big attraction in the arcades due to it's extremely impressive graphics and sound.

These days, however, we aren't so easily impressed with visually fancy CD-Rom releases, which is the category that this release most certainly falls in to.

Dragon's Lair certainly looks very good indeed on a decent 486 with a double-speed CD-Rom. In fact, it isn't far off the standard of the MPEG ReelMagic version.

Sonically, all the samples are superb – pretty much identical to the original version, if my memory serves me well.

This is all very well but the sequel to the arcade game – Space Ace was released on the PC several years ago on floppy. This looked and sounded great too – the problem was the gameplay, and surprise, surprise nothing much has changed.

For those who have no idea what Dragon's Lair is actually about, it is a series of vaguely linked action scenes, in which you have to guide the hero out of danger. This is done simply by pressing one of five keys at the correct time.

For instance, if our hero is being assailed by slime leaking onto the floor, you press up to jump and avoid a sticky death. All you can do is move left, right, up or down, and draw your sword. Completing one scene leads to the next, until you have rescued the fair maiden.

This is all there is to it, really, and whilst it can be entertaining for a while, this enjoyment is very short lived. When you consider exactly how much money you are paying for the privilege of watching some pretty animations and pressing a key every now and then, this really isn't worth a look.

Darren Alla

VERDICT	
Product	Dragon's Lair
Price	£39.99
Format	CD-Rom
Supplier	Elite
Telephone	0922 55852

PC home RATING 49%

8 of the World's leading software programs for only £99

£133.95 Inc Delivery & VAT

The Software Offer is a unique opportunity to equip yourself with the latest software packages for your PC. You can choose a bundle of 8 of the world's leading software programs that can cost more than £1,000 for just £99 + Vat & Delivery.
All the packages include all disks and manuals and you have complete peace of mind with our 14 day

Money Back Guarantee

OFFER ENDS JUNE 30TH

A truly unbelievable and exclusive offer

THE SOFTWARE OFFER

Orders can only be placed using the order form on the reverse of this leaflet ▶

Telephone 0282 777 333

MONEY BACK GUARANTEE
Return the packages unused and unopened within 14 days for a full refund

NO COMMITMENT TO PURCHASE FURTHER PRODUCTS

Simply Select 3 PREMIER Packages from our superb PREMIER Software Collection

Pressworks

The popular desktop publishing program from GST, Pressworks for Windows contains all the tools needed to produce professional quality documents - even if you're new to DTP! Create reports, memos, presentations, advertisements, brochures and catalogues, with ease.

Quicken

If you need help organising your finances, Quicken v2.0 for Windows is the answer. It looks and works just like your bank statement and cheque book - so there's nothing new to learn, no unfamiliar accounting terms and no complicated instructions. Be productive instantly!

Lotus Organizer

Lotus Organizer v1.0 for Windows is a superb easy to use filing systems and personal organiser which puts you firmly in control of your time with diary, address book, planner, to- do lists, notebook, anniversary and more.

PFS: WindowWorks

PFS:WindowWorks 2 is the latest version of the leading Windows integrated business software. Powerful but easy to use, WindowWorks includes 8 great Windows programs! Wordprocessing, Spreadsheet with Lotus 123 & Excel compatibility, Business Graphics, Database for information management & filing. Also includes WinFax UltraLITE Fax software from Delrina and Windows Address Book, Communications and Label Maker.

Designworks for Windows

GST Designworks v2 (RRP £149) is a powerful, easy to use graphics and illustration program. Create drawings, diagrams, logos, charts, art and text for just about anything. Designworks includes many features not offered by other drawing programs and is set to be the UK's leading Art & Graphics package.

Borland Quattro Pro for Win v5

Borland's acclaimed spreadsheet package has been acknowledged as the best Windows spreadsheet in the world. It also includes very powerful presentation graphics and database programs. Editor's Choice PC Magazine; Product of the Year Computer Shopper.

THESE 5 CA PACKAGES TOGETHER REPRESENT 2 SELECTIONS
(Packages not available as seperate items except CA-Textor)

CA-Cricket Presents for Windows

CA-Cricket Presents is the World's most persuasive graphics presentation package.Fast, easy to use and fully integrated, it offers a host of features including a built- in outliner, predesigned graphics templates, and an electronic light table to edit and re-sequence your presentations. Also contains speaker's notes and presentation-quality handouts and transparencies.

CA-Textor for Windows

Easy Word Processor that you will have up and running in minutes. And thanks to its graphical, easy- to- use design, you'll be adding power and persuasion to memos, letters, briefs and reports almost instantly- all with just a click of the mouse. You can write and edit documents in standard draft or WYSIWYG. You'll be amazed at how simple it is to make your work look spectacular. Includes a bi-lingual French/English spell- checker.

CA-Compete! for Windows

Powerful spreadsheet with multi-dimensional modelling & viewing. Unlike standard spreadsheets, CA-Compete! lets you manipulate up to 12 different dimensions and navigate between them instantly with the click of a mouse. RRP £399.

CA-ACCPAC Simply Accounting

Simply Accounting is the easy way to handle your accounts effectively. Containing everything you need to get up and running straight away, Simply Accounting includes an easy to learn consistent menu structure; automatic transaction posting; pop-up customer, vendor, job, account and inventory lists; and full integration among functions.

CA-Up To Date

CA-Up To Date is an advanced Personal/Group Information Manager. With CA-Up To Date, you can effectively manage appointments, schedules and resources for yourself, and co-ordinate with the entire office All diaries can be arranged in this system, and you can interact with over 65,000 schedules! Easy to learn and use, CA-Up To Date will soon be increasing your productivity.

Autoroute Express UK

Autoroute Express UK is the leading Computerised Road Atlas. When planning your journeys, Autoroute shows you the quickest route, or the shortest, or the best alternatives... whichever suits you. It features full zoom facilities on colour maps with printout options. Saves upto 20% of driving time and costs! (RRP £99).

And Select 5 BEST SELLER Packages from our BEST SELLERS Collection

Landscape for Windows

Landscape the easy way - without lifting a shovel! Create a beautiful outdoor environment, complete with foliage, furniture, pools and even a summer house from landscape object libraries. The program allows you to create complex shapes to any pre-defined scale, and will even calculate your total cost of materials using the built-in Estimate Spreadsheet.

Mavis Beacon Typing Tutor

Critically acclaimed Mavis Beacon for Windows is the best way to learn to type, dramatically improving your typing skills with a precise personalised course created to meet your individual needs. Mavis Beacon includes fun and fascinating text throughout to keep you interested and help retain your new found techniques.

XtraDrive Hard Disk Doubler

New IIT XtraDrive is the best hard disk doubling program available in the world and is set to be the new market leader. Using XtraDrive is like installing an additional hard disk within your PC system.

PagePlus 2 Lite for Windows

PagePlus Lite for Windows is an easy to use desktop publishing package for Windows that allows you to create impressive flyers, newsletters, invitations, business stationery, forms and more. Caredully pitched Tutorial, professionally designed templates and the easiest interface around makes PagePlus Lite the ideal DTP choice.

Mindscape Contraptions

Superb fully animated 3- D puzzle- action game. As Zack, the repairman at GadjetCo, you find the tools of your trade and try to fix all the contraptions in the elaborate, six- level maze. Superb arcade graphics action.

Central Point Back-Up

If you have ever experienced data loss, you know the value of backing up. Central Point Backup for Windows provides simply the most complete, automatic backup solution for Windows available, and provides protection against data loss in a fully customisable format.

Pacioli 2000 Accounts

Pacioli 2000 is a full feature DOS integrated accounts package for small to medium sized companies. It includes the various ledgers (nominal, purchase, sales), full stock control, invoicing and budgeting.
"Best Buy" Computer Buyer's Guide. "Best Buy" PC World; "Best Value" PC Computing

Pool for Windows

Improve your aim without leaving the comfort of your arm chair! Championship Pool for Windows includes four popular games; Straight, 8- Ball, 9- Ball and Billiards for one or more players. Advanced features include game save & recall, Aim, Path tracing, and sound options.

Labelworks for Windows

Design all kinds of professional-looking labels fast. Includes bar codes, colour and clipart. Use the powerful built-in database with DDE mail merge facility to Microsoft and WordPerfect word processors. Also has a quick address feature.

Fun Pack for Windows

Fun Pack is a collection of seven arcade- style action games for Microsoft Windows. They are similar to classic video games like Pac Man, Asteroids, Breakout, Missile Command etc.

Home Design for Windows

Redecorate a room, or create a house plan the easy way! Icon based operation allows you to quickly pick up the basics of room-planning, and enables you to create accurate scale drawings of every room in your house - you're in control with Expert Home Design for Windows.

Legend Adventure

Legend is the finest role- playing graphics adventure you will find. It includes stunning realism, complex interaction, a deeply absorbing plot, superlative magic system and brilliant 3-D arcade action!

Virus Check & Cures

With Virus Checks & Cures, you can have full system protection to scan for, detect, quarantine and cure all application and system viruses. Detects over 700 known and unknown viruses.

Wordstar for Windows

WordStar for Windows v1.5 (RRP £399) is one of the UK's leading easy to use wordprocessing package for Windows. As well as being powerful, it is remarkably easy to learn. Superb spellchecker, thesaurus and DTP- like features are included as standard. Comes complete with Correct Grammar for Windows grammar checking package. This great program will handle all your word & document processing requirements.

TurboCAD for Windows

TurboCAD for Windows is one of the world's leading easy to use design, drafting & CAD package and is ideal for Technical Drawings, home & landscape design, business flow charts, PCB design, Floorplans and much more! RRP £100

Lotus Ami Pro for Windows

Lotus Ami Pro for Windows v2 is a powerful wordprocessor for the Windows environment. It includes features such as graphics handling and drawing tools, Maths & Tables, Contents, Index & Glossary generation, Forms design, merge & sort, spellchecking with comprehensive Anglo-American dictionary. Version 3.0 which counts as two selections also available.

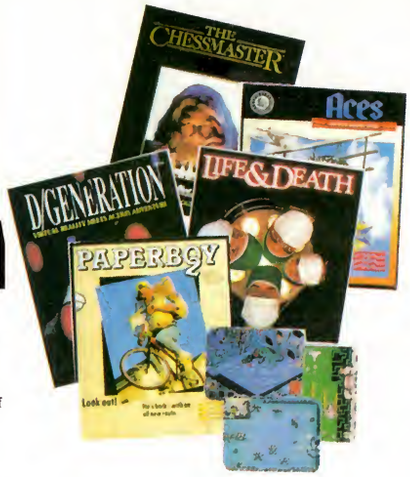
Framework XE

Framework XE is a powerful integrated software package for DOS users and features no less than 7 great programs. Comprehensive wordprocessing with spellchecking and mailmerge; Powerful spreadsheet ; Business Graphics (pie, bar, line, scatter, X- Y & other charts); Communications; Database filing system & much more

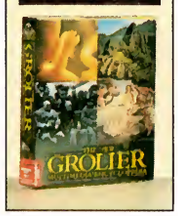
THIS PACKAGE REPRESENTS 2 SELECTIONS

Microsoft Windows 3.1

The industry-standard graphical user interface, Microsoft Windows is now installed on millions of PCs the world over. Intuitive and easy to use, Windows brings a common look and feel to all your applications and files. Thousand of programs have been written to take advantage of Windows' unique features - if you're not working with Windows yet, now is the time!



THIS PACKADGE REPRESENTS 2 SELECTIONS



The Software Toolworks Multimedia Encyclopaedia CD

The amazing power of CD-ROM technology has never been more evident than in the new Software Toolworks encyclopaedia. This definitive multimedia information program contains 33,000 articles - the equivalent of a staggering 21 volumes. Five search and browse facilities enable you to source information quickly and easily.

THESE 3 PACKAGES TOGETHER REPRESENT 2 SELECTIONS. (WORLD ATLAS ALSO AVILABLE AS SEPARATE ITEM)

World Atlas CD

Now you can visit 200 countries in an instant with this exciting CD! This essential atlas, almanac and fact-finder is the perfect single-source reference guide for everyone who wants to explore the world from their computer. Over 4000 statistical maps, 250 topographic reference maps and real life video clips providing information on a wide variety of subjects. World Atlas - the world at your fingertips!

Mavis Beacon Teaches Typing CD

Now on CD, critically acclaimed Mavis Beacon is the best way to learn to type, dramatically improving your typing skills with a precise personalised course created to meet your individual needs. Mavis Beacon includes fun and fascinating text throughout to keep you interested and help retain your new found techniques.

Chessmaster 3000 CD

The best chess program in the world just got better - and on CD! Superb photo-realistic boards, stunning 3D modelled pieces and the latest Artificial Intelligence in chess technology will help improve your game dramatically. Whether you are a novice, intermediate or expert, Chessmaster offers extensive interactive and animated tutorials.

CD Storytime

A new interactive way of enjoying your favourite stories, CD Storytime offers your children the opportunity to read, hear and colour pictures from The Boy and The Donkey and The Little Red Hen. The highlighted text will take your child through the stages of learning to read yet retaining their interest with coloured illustrations and sounds.

Time Table of History CD

Designed to be enjoyed by the entire family, the Time Table of Science and Innovation is a new way to learn about man's progess in science, and the development of technology. Over 6,300 stories are linked to special multimedia effects, including maps, colourful pictures, sounds and a prehistoric timeline, a periodic table, and much more.

Shareware CD III

The finest collection of the world's leading Shareware programs covering virtually every topic. This CD disk contains over 5000 programs that, when uncompressed, exceed 1 Gigabyte in size. The programs cover a comprehensive range of interests; Windows, games, fonts, business, eduction, graphics and more!

8 Games Pack

Eight of the best PC games with an RRP of over £200! combined in one great bundle.
- **Chessmaster 2100:** The world's most exciting computer chess game with over thirty different features.
- **Life & Death:** You are a surgeon in a busy medical centre. Investigate and treat your patients and see the results.
- **D/Generation:** Arcade action adventure with superb animation and graphics with problems in over 120 rooms.
- **Paper Boy 2:** Paper boy is a daredevil stunts rider who has to deal with many obstacles, ghosts and monsters on his rounds.
- **Xenon:** Xenon is the game that began the arcade legend. The best fast paced shoot 'em up game you will ever play.
- **Blue Max:** Classic flight simulator including action dogfight solo and team missions for one or two players.
- **Cadaver:** A deep and complex 3- D arcade graphics adventure with superb animation and stunning graphics.
- **Speedball II:** Speedball is a fast and aggressive game where you take charge of the leagues' worst team, Brutal Deluxe.

Sim City for Windows

The world's best Windows game. As the Mayor and City Planner, you control the fate of countless cities. This great city simulator puts you in control and features superb animation and colour graphics. RRP £45

Kid Pack

Kid Pack for Windows is a collection of five educational games for children aged 2-7 years. Designed as a fun way for children to learn about reading, maths, art and music, each program is based on familiar toys and symbols to make learning a pleasure, not a chore.

MultiWorks 30

This comprehensive DOS integrated software package includes word processor, database, spreadsheet, time manager, address book communications module, label printer, DOS shell and much more Needs DOS 3.1 or higher.

Holiday Fonts for Windows

Includes 35 fonts and borders for Windows 3.1 for year-round holiday greetings. Make your own holiday cards, announcements and invitations - for every celebration from New Year to Christmas!

Rooms for Windows

Xerox Rooms for windows simplifies, enhances and accelerates the use of Windows by organising your files in a more logical and efficient manner. Rooms - The fastest way to work in Windows!

Borland Screenery

This amazing program provides superb wallpaper and screen savers when using Microsoft Windows 3.1. Makes your Windows desktop bright and colourful.

Maps for Windows

This complete electronic atlas gives you the opportunity to increase your geographical awareness from Pole to Pole - without leaving your desk! Expert Maps for Windows contains over 200 up to date country and regional maps, and includes an extensive database with current economic, demographic and geographic information on every nation.

Fun School

Fun School for 7 to 11 year olds consists of six new and original programs to entertain and educate your children. Stimulating sound, cleverly animated rewards and stunning graphics combine with essential elements of the National Curriculum to delight yiur children while they learn. With several levels in every program, there's more than enough to keep your children coming back time and again!

SuperStar Sports

Superstar Sports contians seven superb DOS games for one or more players. These include:- SuperStar Hockey, Bowling, Darts, Outdoor Soccer, Ping Pong, Air Hockey and Indoor Soccer.

Fonts for Windows

Expert Fonts for Windows contains a selection of 100 Serif, Sans Serif and Display scalable fonts, carefully chosen to ensure you have the right typeface for every job. Easy to install and accessible from all your Windows 3.1 applications, Expert Fonts for Windows is the perfect all-round font collection for great looking documents!

Business Forms for Windows

Create and print forms with ease and save hours of precious time. Includes over 100 customisable forms covering a wide range of subjects for business, personal or educational use.

SoundWav Pro for Windows

This great program brings digitized sound right into your computer without the aid of a soundcard. It can lighten your day with humorous and appropriate dialogue from popular movies and cartoons every time you perform a function whilst using Windows!

Fontware Face Pack 2

Fontware Face pack includes 16 superb Truetype fonts for Windows 3.1. All the fonts are true Monotype, fully scalable and will work with all programs able to use Windows 3.1 fonts producing great results for all your written work!

ORDER NOW USING THE ORDER FORM OVERLEAF

8 for £99

+ VAT & Delivery.

Limited Offer Please Order Early

Order Form

THE SOFTWARE OFFER

ALL SOFTWARE PACKAGES INCLUDE ALL MANUALS AND DISKS
NO OBLIGATION TO PURCHASE ANY OTHER PRODUCTS

Name: .....

Invoice Address: .....

.....

.....

.....Post Code.....

Telephone No: .....

Name: .....

Delivery Address (If different): .....

.....

.....

.....Post Code.....

Telephone No: .....

Select 3 Packages from our superb PREMIER Software Collection

or

1 Premier and 1 Double Premier

Select any 3 of the following:-

	P1	GST Pressworks for Windows
	P2	Quicken v2 for Windows
	P3	Lotus Organiser v1.0 for Windows
	P4	PFS: WindowWorks v2
	P5	GST Designworks v2 for Windows
	P6	Borland Quattro Pro v5 for Windows
	P7	Wordstar v1.5 for Windows
	P8	TurboCAD for Windows
	P9	Lotus Ami Pro v2 for WIndows
	P10	Framework XE (DOS)
	P11	CD StoryTime CD
	P12	TimeTable of History CD
	P13	Shareware CD III
	P14	8 Games Pack DOS
	P15	CA Textor for Windows
	P16	Autoroute Express DOS
	P17	World Atlas CD
Alternative package (P1 to P17) if any of your above 3 selections not available		

Double Premier

Each of these counts as TWO Premier Products

	DP1	Bundle of World Atlas, Chessmaster 3000 & Mavis Beacon CD
	DP2	Encyclopedia CD
	DP3	Microsoft Windows 3.1
	DP4	Bundle of all 5 CA products (Compete Textor, Accounts, Presents & Up To Date)
	DP5	Lotus Ami Pro v3.0 for Windows
	DP6	Lotus Freelance v1.0 for Windows

Select 5 Packages from our Best Sellers Collection

Select any 5 of the following:-

	B1	Landscapes for Windows
	B2	Mavis Beacon Typing for Windows
	B3	IIT XtraDrive (DOS)
	B4	Page Plus v2 Lite for Windows
	B5	Contraptions (DOS)
	B6	Central Point Backup for Windows
	B7	Sim City for Windows
	B8	Kid Pack for Windows
	B9	MultiWorks 30 for DOS
	B10	Holiday Fonts for Windows
	B11	Rooms for Windows
	B12	Borland Screenery for Windows
	B13	Maps for Windows
	B14	Pacioli 2000 Accounts (DOS)
	B15	Pool for Windows
	B16	LabelWorks for Windows
	B17	Fun Pack for Windows
	B18	Home Design for Windows
	B19	Legend Adventure (DOS)
	B20	Virus Check & Cures (DOS)
	B21	Fun School 4 (DOS)
	B22	SuperStar Sports (DOS)
	B23	100 Fonts for Windows
	B24	Business Forms for Windows
	B25	SoundWav Pro for Windows
	B26	Fontware Face Pack for Windows
Alternative package (B1 to B26) if any of your above 5 selections not available		

8 Software Packages £99

(Offer ends June 30th)

- Post & Packing £15 U.K. mainland only.
- VAT 17.5% £19.95 • Total £133.95

I am under **NO OBLIGATION** to buy anything else from The Software Club. I can return all the packages unopened and unused within 14 days for a full refund.

PAYMENT DETAILS

☐ I enclose a cheque made payable to: The Software Club

☐ I enclose an official order (Government and Education Only)

☐ VISA / ACCESS / AMERICAN EXPRESS / SWITCH

Credit Card Number

Expiry Date .....Issue No. .....

Signature.....

☐ I am ordering before the end of June and have selected 8 packages (3 from PREMIER and 5 From BEST SELLERS).

This unique subsidised offer is only available to end users of PC systems for a strictly limited period. The offer is limited to one offer per PC system. If your company has more than one system you may photocopy the order form. Programs are only available on 3.5" floppy disks and are for IBM PC compatible computers.

Please send completed form or copy to:-

Software Bundle Offer
The Software Club
FREEPOST
BK945
BURNLEY
BB12 7BR

or

0282 777 333
9am to 5.30pm
Mon-Fri only
Credit card orders only

MAG CODE B/ 011

All orders will be fulfilled within 28 days unless otherwise specified. The offer is only available whilst current software stocks last. In some cases software packaging and box colours may be cosmetically different to pictures shown. All trademarks acknowledged. £99 price excludes delivery & VAT. The Software Club is a trading name of Corporate Systems Ltd.
Company Reg. No. 2645971 VAT No. 598 0031 32

CD NOW

The *PC HOME* team spin the latest non-game CD releases

3-D Dinosaur Adventure

STEVEN Spielberg has a lot to answer for, I tell you. Jurassic Park inspired dino-mania which has gripped the western world of late, and this CD release is another passenger on the gravy train.

A Knowledge Adventure product, and very much an American thing, it is an interactive learning tool suitable for ages 3 to 103. Or at least, this is what the producers claim.

An age range nearer the truth would be about 8 to 12. While there is some stuff in here that would be accessible to younger children, there isn't really enough to justify a 4-year-old being bought the program.

Coming with a pair of 3-D specs, Dinosaur Adventure boasts a fully 3-D museum section.

Also included are various dinosaur identification tests, a reference guide, a selection of dinosaur *movies*, and a game in which the objective is to prevent the dinosaurs from becoming extinct.

After an impressive animated 3-D intro, you are left free to roam around the interactive environment. Of course, most will head straight for the 3-D museum in order to give the specs a road test.

Some nice movie footage is included

Movement inside the museum is controlled somewhat clumsily via the mouse. It seems to be impossible to move around smoothly, and I found myself doing a lot of pushing the mouse forward just to walk down one corridor.

The actual 3-D bit itself is reasonably impressive, but the scope is a little limited, and this is the only 3-D bit aside from the intro. In short, there isn't a great deal of it to be seen in the program. I could start throwing about phrases like *gimmicky con trick*, but maybe that would be a little cynical.

On the more positive side, the reference guide provided is actually quite wide ranging and interesting.

Dinosaur evolution is basically divided into three major periods, Jurassic, Cretaceous and Triassic. All these areas, along with the forming of the world as we know it and the death of the dinosaurs are covered. Every entry is spoken as well as written and some even have little video clips to go with them.

Dinosaur Safari is basically a quiz, in which four dinosaurs are shown, and you have to pick the one that corresponds to the aural clue you are given. Name-a-Saurus is pretty much the same thing.

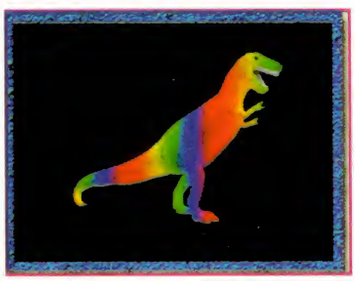
Another quiz type section is entitled *Who am I?*, in which you have to identify the correct dinosaur out of four from an extreme close up of one of its body parts. These exercises are fairly well executed, although there aren't that many questions.

On a more entertaining level is the Create-a-saurus module which allows you to change the colours of various dinosaur graphics. For instance, you can have a marble Tyrannosaurus Rex or a Zebra striped Diplodocus.

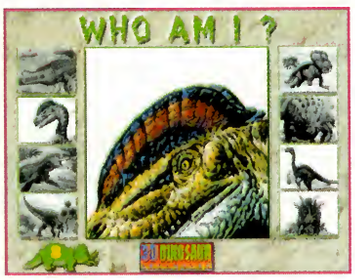
As you experiment with the different features, the dinosaurs make various remarks about their new-found appearance, ranging from the comical to the surreal.

Dinosaur Movies boasts a collection of 30 films, although they aren't so much films as clips – some of them only last 10 seconds. Even so, the quality of the images is very good indeed and certainly not the flickery sort of FMV (full motion video) that some software producers consider in vogue.

The main selection screen. Dinosaur safari anyone?



Colour your own dinosaur



One of the quiz sections

An educational story book is provided for younger children to use, but to be fair, this is more than a little limited. There is one story and it is very short indeed.

Finally, a game is included, in which the aim is to save the dinosaurs from extinction. This is achieved by running around a smallish maze and searching for various dinosaurs, while a timer counts the seconds remaining before the comet hits earth.

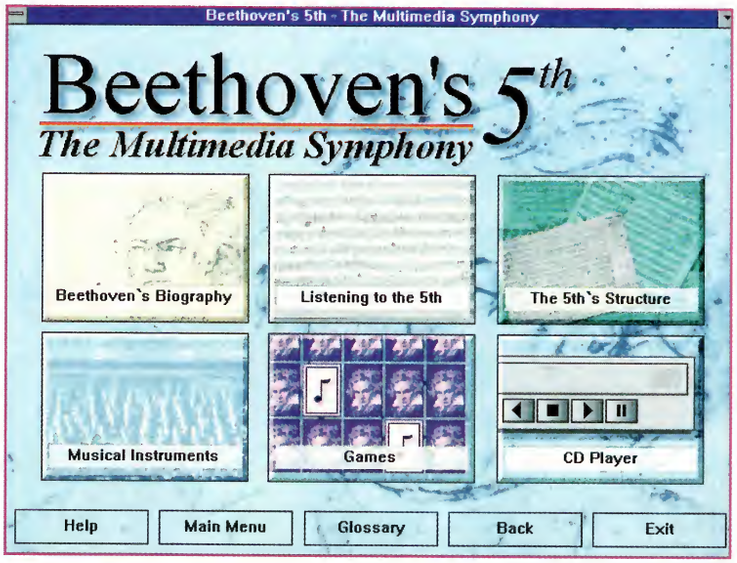
This is relatively entertaining and educational, primarily aimed at under 10s as older children will most likely find it rather twee and patronising. (*Admit it Darren, you played this for hours – ed*).

Dinosaur Adventure is an entertaining little package and my major gripe is that it is somewhat on the short side in places. Nevertheless this is both fun and educational, and will no doubt ride the tail end of the wave of dino-mania with some aplomb.

Darren Allan

Product	**3-D Dinosaur Adventure**
Price	**£59.95**
Supplier	**Guildsoft**
Tel	**0752 895100**
✔	**Great fun for kids, informative encyclopaedia section**
✘	**Somewhat on the short side in places and a bit pricey**
PCH Verdict	★★★★☆☆

Beethoven's 5th



Beethoven's 5th looks slick, but is it quick?

The orchestra section contains many movies of instruments playing so you can get a better idea of how they sound and look

ONE of the best known most easily recognisable pieces of classical music is now the subject of a Software Toolworks Multimedia Symphony CD-Rom. This disc, like others of the genre, presents you with an interactive way to learn about the great composer, his times, a specific piece of his music, and through this, about musical form more generally.

You can move between a detailed study of the symphony, an examination of Beethoven's life, a look at the structure of the orchestra and a glossary of musical terms, taking in a few games on the way. The entire experience is peppered with sounds, photographs and in one case, a movie.

The CD-Rom is a strange mix of very good and very bad ideas. Moving about the biography section is easily achieved by clicking on a time bar, an intelligent and simple idea.

But pages of text in this section often contain a button which conceals a quote by Beethoven or some other leading light. These are often oblique, bear no relevance to the biographical text you are currently reading, and add little or nothing to the understanding of the great man's life and times.

The main part of this CD-Rom is its detailed analysis of the fabulous 5th Symphony.

From the main menu there seem to be two ways of doing this. The first is called *Listening to the 5th*. You can choose to either play the symphony section by section, selecting particular small musical chapters to hear, or play an entire movement without stopping.

You can either read about what is happening as you hear it or follow the score. The text used to describe the music does an excellent job of conjuring up images and is not in the least intrusive.

The second main menu option, called *The 5th's Structure* is not really an option at all – it simply presents a single screen overview of the structure of the four movements in the symphony, then throws you into *Listening to the 5th*. Very disappointing and another of those very bad ideas.

If you want to understand a bit more about the orchestra itself you can view a typical orchestra's layout, see pictures of the instruments, discover their musical range and the roles they tend to take and even watch movies of many of them being played.

And, if musical terms come up which you do not understand, the glos-

UFO

THIS Windows package, billed as the planet's complete guide to close encounters, is another one of those encyclopaedic packages that multimedia was designed for. Almost.

The trouble with UFOs is that they tend to move very fast, are rather silvery and reflective, and more often than not, they appear at night. This makes catching the darned things on film a little difficult.

And any time anyone does see one, particularly if it's close up, stationary or in a good light, it just happens to be when the film runs out, the lens cap is left on or the camera was never brought in the first place.

This is not a CD-Rom for cynics. Most relatively intelligent people are going to be able to think up alternative reasons for *some* of the phenomena presented, but then most things can be argued a number of ways.

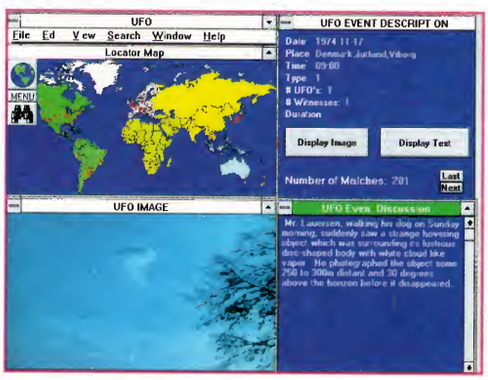
Keep an open mind and try and believe the people who've had a lot of experience of this kind of thing and you'll get the most out of the product.

The software presents itself in five windows: The menus, a map of the world, an event description, an event discussion and a photo or piece of video if available. From here you can simply flick through the records or choose information on encounters by location via the world map.

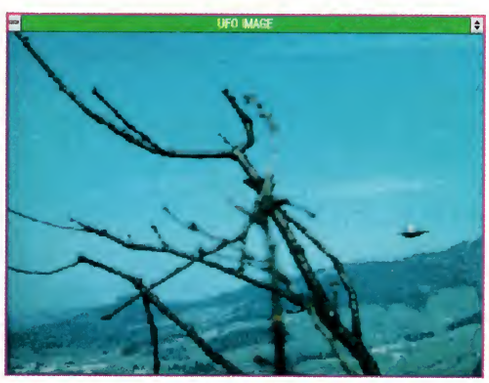
A fairly sophisticated search function is also available which can help find certain information such as cases involving human abduction, animal mutilation or what kind of evidence there is. This is handy for browsing through related encounters or for finding something you already know about. Many of the photographs are pretty questionable – I'm not sure that a black screen with a few brightly coloured blobs on it is any kind of evidence of UFOs, but having said that, there are some very good photos as well.

The video footage is shaky and pixellated, not really being very good evidence, but quite good at showing the terrific speed and movement potential of the things if you're a believer.

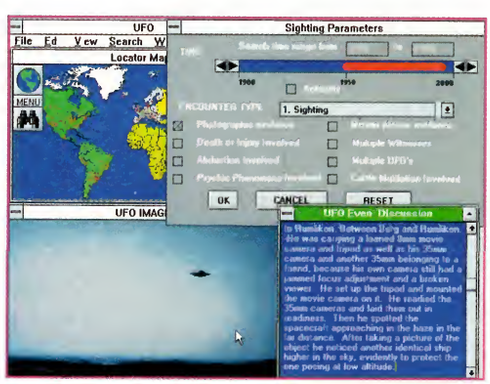
The best part, despite the lack of presentation is probably the text. Each



The main screen. Each area is a window to more information



One of the better UFO stills. What is that flying object?



The search function will find all related sightings

sary will provide an explanation. Automatic links to the glossary are provided throughout the other sections of the disc, or it can be used separately.

The CD-Rom is rounded off by a trio of games. Their quality is reasonable, though they seem unnecessary and will probably not warrant a great deal of attention.

This CD-Rom is not a slick as some. It seems to have a particular problem with speed. Even on a 486 with a double-speed drive, the waits between clicking the mouse and something happening were interminable.

The last thing you want to do when browsing a CD-Rom like this is wait for it to catch up, but wait I did, and wait, and wait. Trying to read a score is also hampered as the panel highlighting what notes are being played is moving perceptibly slower than the music!

Sandra Vogel

Product	**Beethoven's 5th**
Price	**£39.99**
Supplier	**Software Toolworks**
Tel	**0444 246333**
✔	**Excellent musical analysis**
✘	**Slow, oh so slow**
PCH Verdict	★★★☆☆☆

encounter is brief and written to the point, with far more entries than there is photographic evidence for. To this end it's very interesting and in depth, with everything you need to know.

The amount of information on this disc is impossible to fault. Everything you wanted to know about UFOs is here, as long as it's eye witness accounts. There is nothing controversial, and no secrets have been uncovered.

For people who have a need to know about UFOs, this is a fine package, and it concentrates everything factual you would be able to find in a variety of other sources. However, for new information or questions about how much various governments are keeping from us, you'll have to go elsewhere.

Andy Shaw

Product	**UFO**
Price	**£44.95**
Supplier	**Guildsoft**
Tel	**0752 895100**
✔	**Lots and lots of inoffensive UFO information**
✘	**Presentation is poor and it contains little that's new**
PCH Verdict	★★★★☆☆

The Viking Opera Guide

BASED on every opera lover's favourite reference book of the same name, The Viking Opera Guide is a complex and sophisticated product. This CD-Rom version adds a great deal of value to the book including pictures, complex search facilities and over four hours of sound.

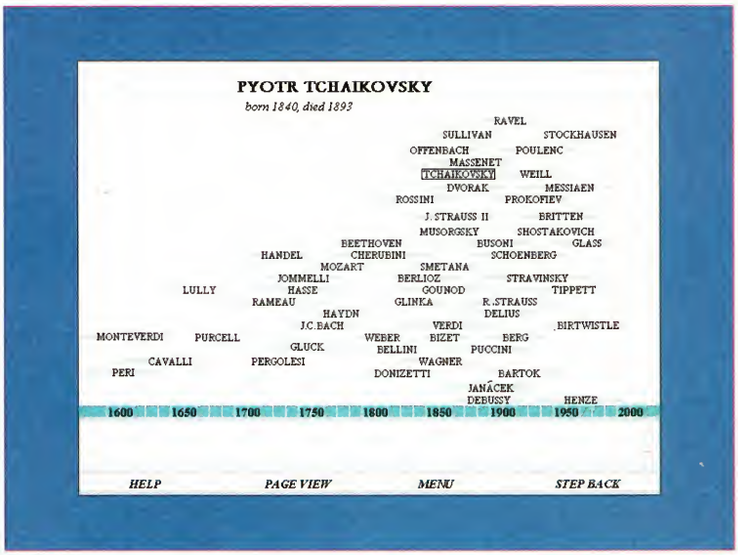
The simplest way into the contents of the CD-Rom is through the five different indexes – one each for composer, opera, librettist, place and audio. Selecting a listed item from an index produces information about it for you to read, look at or listen to.

More sophisticated searching is also catered for, and this is where the CD-Rom gets really impressive. Simple searches look for words in the text about every opera or composer on the CD-Rom. You can also do the ultimate Boolean – and, or, not – search, combining terms from a wide range of categories.

For each composer you can search by name, audio clips, pictures, opera titles, birth and death date and place and words in their biographical text. For each opera searches can be done on name, audio clips, pictures, librettist, composer, premier – first, UK and US – and words from the text about the opera.

Added elements contribute value to the CD-Rom. There is a time line which shows a composer's life span in relation to others. The information here is cluttered, and the time line difficult to read but the authors have thought of that – you can plot a vertical line against your composer to make reading the information easier.

Alternatively you might want to find out all about a particular place – what operas were premiered there, who lived and died there. This is easy with the map option where you simply click on the place that interests you and wait for the information to appear.



Using the time line you can see which of the composers were contemporary to each other

Opera is full of strange terms which you might be forgiven for thinking are unpronounceable. Now's your chance find out how to pronounce them by using the guide which contains 1,200 words and phrases including composers' names, opera titles and technical terms. This part of the CD-Rom has been taken seriously, with native tongue pronunciation being used, so French words sound French, Italian words sound Italian, Russian ones Russian and so on. Different voices are used which adds to the professional feel.

Paris has been the location of the world premiere of a very large number of operas

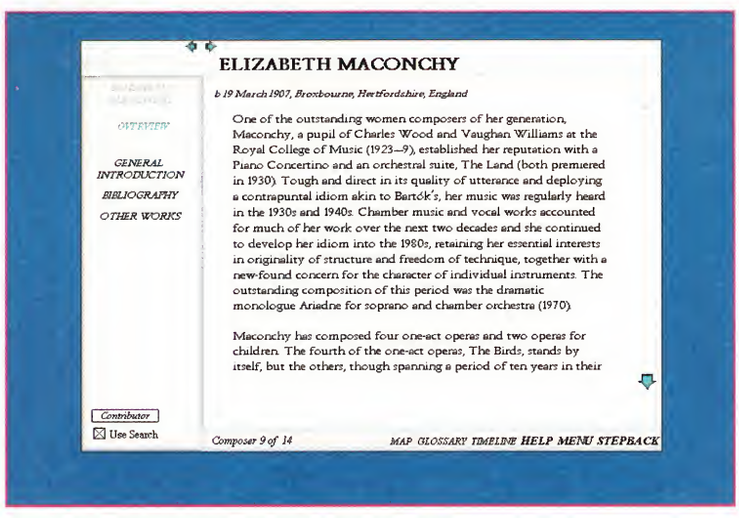
The CD-Rom includes an introduction to the history and development of opera through which you move at your own pace. Each of the short chapters has pictures and sound attached. Thankfully this section lacks that awful voice-over many CD-Roms feel the need to include.

This product is a joy to use. Everything that you could want to do has been thought of and even the most complex of options like Boolean searching have been well implemented so that they are easy to use.

The links between different parts of the CD-Rom operate quickly so that sound, voice clips, pictures and text appear quickly and browsing is enjoyable.There is even a first time user's tutorial on board which takes you through the various options available.

The Viking Opera Guide is very professional product whose slightly higher than usual price is entirely justified.

Sandra Vogel



Biographies of individual composers give detail about their style, their education and their personal lives

Product	**The Viking Opera Guide**
Price	**£99.99**
Supplier	**Attica Cybernetics**
Tel	**0865 794561**
✔	**Packed with information and very easy to use**
✘	**Nothing. Well okay, the price**
PCH Verdict	★★★★★★

MultiMedia Direct

- Best Products
- Best Prices
- Unlimited Technical Support
- Friendly Professional Advice

Daisy
Exclusively Multimedia

16 BIT – VALUE

PANASONIC CR-562-B
– complete with all cables and installation software.

Soundblaster 16 Value
– Full set of Creative Labs utilities.

Speakers
– Screened, Power Amp, Volume Control

£225 Complete Upgrade Kit

BACK TO BASICS

PANASONIC CR-562-B
– complete with all cables and installation software.

Soundblaster Pro – Value
– Includes Lemmings, Indy 500, The Simulation Creative Labs Sound Utilities.

Speakers
– Screened, Power Amp. Volume Control

£199 Complete Upgrade Kit

CREATIVE LABS

Sound BLASTER™

Pro Value	£59
16 Value	£79
16 MCD AdSP	£139
16 SCSI-2	£139
16 SCSI-2 AdSP	£164
16 AWE-32	£199

NEW LOW PRICES

NEW

NEW 2X DRIVE – 16 BIT

MEDIA VISION Pro Sonic 16
– 16 bit digital. 100% MPC2 and Soundblaster Pro compatible. Real time compression/decompression.

PANASONIC CR 562-B
– double speed CD Rom Drive complete with all cables installation software, drivers and mounting screws.

SPEAKERS
– Screened, Power Amp. Volume Control

£225 Complete Upgrade Kit

NEW DREAM COMBINATION

NEC 3Xi Triple Spin internal drive
– 450 kB/s sustained data transfer
– 195 ms access time, 256 kB Cache Memory
– MPC 1+ 11 formats, CD-ROM XA Ready
– LCD Full Function Control Panel

Soundblaster 16 ASP SCSI-2
– 16 bit real time compression/decompression in hardware
– EZ SCSI software
– Multimedia Encyclopedia on CD ROM
– Voice Assist + Microphone, joystick port

Labtec Speakers
– Screened and mains

Audio Cable
– Playback of audio CD's

£499 Complete Upgrade Kit

CD-ROM DRIVES

- Dual Speed – 300Kb/s or faster
- Multisession
- Kodak Photo CD compatible
- MPC II Compliant

TOSHIBA

XM3401–B Internal	£275
XM3401–S External	£375
XM3401–BA Internal Kit	£325
XM3401–SA External Kit	£425

PANASONIC

CR-562–B Internal with S/ware and Cables	£145
CR-562–B Internal with Interface	£160

Games

The 7th Guest	£38
Conspiracy	£29
Crital Path	£29
Day of the Tenticle	£29
Dracula Unleashed	£25
Gabriel Knight	£29
Jurassic Park	£25
Kings Quest VI	£30
Lawnmower Man	£34
Legend of Kyrandia	£25
Microcosm	£39
Quantum Gate	£29
Return to Zork	£39
Sherlock Holmes 3	£35
Star Trek	£29
Star Wars – Rebel Assault	£29
Strike Commander	£29
TFX	£36

Modems

Pace Linnet Quad + Fax	£125
U.S. Rob. Sportster 14.4 + Fax	£195

NEC – Triple Spin

3Xi Internal 195ms	£295
3Xe External 195ms	£365
3Xp Portable 250ms	£310
AT SCSI Interface	£50

Education

Animals of San Diego MPC	£25
Arthur's Teacher Trouble	£25
Carmen San Diego Deluxe	£30
Forever Growing Garden	£29
Just Grandma and Me	£25
Mavis Beacon Teaches Typing	£35
Mixed up Mother Goose	£15
Playing with Language – German, French, Spanish and Japanese	£19

Sound Cards

MEDIA VISION Pro Sonic 16	£85
Pro Sonic SCSI II	£110
GRAVIS Ultrasound – 3D	£125

Speakers

Daisy DYNA PRO – 15W	£50
Daisy POWER SOUND – 4.5W	£35
Daisy COMPACT POWER – 4.5W	£25
ZY-FI PRO	£45
ZY-FI STEREO V2	£30
Labtec CS-150	£16
Technolux	£14

GCSE Key Stage 3 & 4

Electricity & Magnetism	£89
Earth and Universe	£39
Energy Resources	£89
Complete Physics	£189

Reference

20th Century – 5 disks	£99
ITN World News 1992	£49
Lovers Guide 18+	£29
Microsoft ART GALLERY	£31
Microsoft BEETHOVEN	£31
Microsoft CINEMANIA	£31
Microsoft DINOSAURS	£31
Microsoft ENCARTA 1994 →	£65
Microsoft MOZART	£31
Microsoft SCHUBERT	£31
Microsoft STRAVINSKY	£31
World Atlas V4	£45

Presentation/ Graphics

Business Backgrounds	£20
COREL Draw 3 (bundle)	£60
Kodak Photo CD	£15
Sound Bits	£29
Too Many Type Fonts	£18

Call the experts now for the best deals

ALL PRODUCTS ARE UK SOURCED AND CARRY MANUFACTURERS FULL GUARANTEE

Daisy MultiMedia

a division of
The Daisy Corporation Plc., Unit 1, Vincent Court, Fishers Green Road, Stevenage, Herts, SG1 2PT

Tel. 0438 745300

Sales lines open (9am – 9pm 7 days a week)

Fax 0438 740730

No charges are made until goods are despatched

All prices are exclusive of VAT and carriage (£4.50 – CDs, £8.50 – Cards and Drives + VAT) and are subject to change without notice.

The Premier Library of Wales - Established Over 5 Years - 1000's Satisfied Customers Worldwide

GREAT PC SHAREWARE!

Buy 5 Disks & Get this new, HOT Release FREE!! (Shareware Version)

No hidden charges – 1000's programs – FREE Catalogues

EGA/VGA GAMES

RAPTOR (2)
BILLY THE KID – NEW
SIMONA IN NEW YORK
GATEWORLD Good 720
HOOSIER CITY 720K
BIOMENACE Super
LLAMTRON ex Amiga
LUGNUT CITY fun ed.
ADVENTURE MATH
BLAKE STORM Great (2)
BIO-MENACE New Apogee
H/HARRY Super (2)
SPACE RESCUE (brill)
BACK TO FOREST
KENS LABYRYNTH. 1.4
FORD SIM 3 (4)
MAJOR STYKER 720K
SOLAR WINDS 720K
ZONE66 1.44
MONSTER BASH 1.44
MORAF MOREJONGG
DUKE NUKEM II (2)
ALL Apogee stocked
AND 1000'S MORE

CD ROM DISKS

GABRIEL KNIGHT £35
DRACULA Unleash. £30
BIBLES & REL. £15
CLIP GOLIATH £15
WINDOWARE £15
ENCYC. SOUND £15
GAMESMASTER £15
7TH GUEST £29
DAY TENTACLE £29
CD Prices Inc VAT & P&P

PCX CLIPART

DINOSAURS – Colour (2)
DINOSAURS – Mono
FLOWERS – colour (2)
GIRLIES – 190 style
VANITY FAYRE – (2)
CARTOONS (pcx) (3)
CHURCH & BIBLE (4)
TREES & CHURCH
BABIES 35 pics
TEDDY BEARS (2)
SCHOOL – 38 pcx (2)
FLORAL themed disk
SILHOUETTES popular
CARS – old & new
TRUCKS & VANS
PUNCH cartoons (5)
ART NOUV. FLOWERS
SHIPS – selection
YULETIDE – xmas (2)
CHRISTMAS – (3)
RESTAURANTS (3)
FOOD & KITCHEN (2)
VEGGIES various
LEGEND d&d pics (4)
OLD FASH BANNER (4)
SEALIFE – misc
TRAVEL (scenes) (2)
HAM-RADIO (related)
KIDS – 28 pcx (2)
SHOWTIME (related)
ATKINS BIRDPIX (2)
CATS – wild & dom. (2)
OLYMPIC – sports
MORE SPORTS (2)
& 100's more clip disks

Certainly not the biggest? - Maybe not the cheapest? - Perhaps the Best!

Softcell Services

25 Maywood, Brynna, Pontyclun, CF7 9PZ

Order HOTLINE 0443 238630

2-10 Disks £1.95 (£2.50 3½") 10+ £1.60 (£2.00 3½")

Shareware Programs May Require Separate Payment To The Author If Found Useful

new era software

GOOD TO FIRM

"Excellent rendition...Good To Firm is the winner by a furlong" PC GAMER

In *GOOD TO FIRM* you are a trainer-cum-stable owner specialising in flat racing. Starting out with an empty stable and a million to spend, you have to buy some horses from the auctions or selling races, train them, enter them in races and hope they win enough prize money for you to win the trainers' championship.

Most of the big races in the British flat racing season are featured, including group races, sellers, and handicaps, maidens and the Classics from four main race tracks. All races have conditions of entry and spotting suitable races for your nags is as much of an art as it is in reality. Jockeys also play an important part: the better their record, the more they cost to hire and the bigger their share of any prize money you win.

There are fully comprehensive betting options, both on and off course. There are sixteen multi-bets, including Yankees and Canadians, plus twelve on-course bets including forecasts and tricasts. There is also a wealth of information at hand so you can study form. Each horse has a full seasonal form guide, plus seasonal and career statistics.

GOOD TO FIRM uses both 16 and 256 colour VGA graphics with 3D scrolling to create the definitive horse racing game.

GOOD TO FIRM will run on a PC or compatible with VGA and 580K free base RAM
Recommended: 386 chip / installation to disk (1 Mb with saved game)

GOOD TO FIRM costs only £25

credit card sales line: **031 333 4958**

If ordering by mail please make cheques payable to:

new era software (HM), PO Box 19, Livingston, Scotland EH27 8EH

US/Canadian sales: 1-800-487-4625
free catalogue available on request: game dispatched within 48 hours of order

CHOOSE ANY THREE

OF THE WORLD'S FINEST CD-ROM TITLES

ONLY £75 + p&p

1
THE 7TH GUEST
RRP £60.00 ex VAT

2
RETURN TO ZORK
RRP £39.00 ex VAT

3
DUNE
RRP £43.00 ex VAT

4
DAGGER OF AMON RA
RRP £58.60 ex VAT

5
BATTLE CHESS
RRP £51.30 ex VAT

6
WING COMMANDER ULTIMA VI
RRP £58.60 ex VAT

7
THE LEGEND OF KYRANDIA
RRP £38.00 ex VAT

8
KING'S QUEST V
RRP £39.00 ex VAT

9
STELLAR 7
RRP £51.30 ex VAT

10
ECOQUEST
RRP £51.30 ex VAT

YES CHOOSE ANY THREE TOP MULTIMEDIA GAMES ON CD-ROM FOR YOUR PC FOR ONLY 75 POUNDS!!!

PUBLISHED PRICES FOR THESE TITLES ARE OVER 200 POUNDS!!!

THIS INTRODUCTORY OFFER TO THE CD ROM CLUB ALSO MEANS YOU CAN BUY MORE OF THE WORLD'S BEST FOR UP TO 50 PER CENT OFF RRP ON A FURTHER 200 + TITLES

MEMBERSHIP IS FREE SO POST TODAY!

TO: GEORGIAN HOUSE, 5 BARTHOLOMEWS, BRIGHTON BN1 1HG. TELEFAX (0273) 725334

Offer subject to availability. We reserve the right to substitute similar titles in the event of a shortage. The displayed covers may not match those supplied. Our prices are inclusive with a Post and Packing charge of Ten Pounds added to the quoted price.

CD ROM

Name .....
Address .....
.....
.....

TITLES CHOSEN		

Tel:.....Postcode.....

I enclose cheque/P.O. for **£85.00** made payable to: THE X CORPORATION

ACTIVE SOUND

THE SOUND CARD SPECIALISTS!!

Soundcards & Modules

Roland SCCI	£299	Full range in stock
Gravis Ultrasound	£214	Full range in stock
Orchid Sound Prod Pro	£99	Full range in stock
Sound Galaxy NX Pro16	£149	Full range in stock
Sound Master Pro15	£299	Full range in stock
Pro Audio Spectrum 16	£139	Full range in stock
Turtle Beach Maul	£179	Full range in stock
Roland LAPC1	£199	Roland SC7 £239

+ Many more all in stock

Roland DTM Series now in stock

Software & Accessories/many more in stock now

Ballade DOS/WIN	£99	Trax	£89
Cadenza	£239	Max Pack	£159
Cakewalk Pro	£239		
Cubase V2.5.3	£299		
Finale	£539		
Band in a Box	£89		

FULL RANGE OF MIDI-SOFT SOFTWARE

Saw "New"	£559
Musicator	£269

CD ROM DRIVE FROM **£80**

MICROPHONES FROM **£15**

RANGE OF MIDI INTERFACES FROM **£69**

WE GUARANTEE THE UK's LOWEST PRICES

Roland

New **Roland S760 £1408**

MULTIMEDIA SYSTEMS

486 SX25 256K CACHE - 4MB RAM

1.44 Floppy, 130Mb HDD, 16 Bit Sound Card, Dual Speed, Multisession Photo Compat, CD Drive, Multi Media Case, 60W AMP, 30W Speakers, 14" SVGA Monitor, Keyboard & Mouse **£1139**

486 DX33 256K CACHE - 4MB RAM

1.44 Floppy, 250Mb HDD, 16 Bit Sound Card, Dual Speed, Multisession Photo Compat, CD Drive, 60W AMP, 30W Speakers, 14" SVGA Monitor, Keyboard & Mouse **£899**

MPC UPGRADE PANASONIC CR 562 CD DRIVE

ADV Gravis Ultrasound 16 Bit Sound Card, ADDUP 5550 Stereo speakers + 5 software titles (7th Guest, Chess Master 3000, World Atlas, US Atlas, Mavis Beacon Typing Tutor). **£379**

Midi Keyboards & Speakers

Roland A30 76 Key	£299	Roland CS10	£79
Roland PC200 II	£140	Roland CS30	£99
Roland PC150	£49	Roland MA20	£114
Fatar 90+	Phone	Roland MA7	£139
Fatar CMS61	Phone	Active AV22	£57
Fatar Studio 49	Phone	Active AV42	£89

NEW IN STOCK!

ROLAND RAPIO/AT
The ultimate in Digital Recording/Sampling
£379

Access VISA MasterCard

PARK HOUSE, 15-19 GREENHILL CRESCENT, WATFORD BUSINESS PARK, WATFORD, HERTS WD1 8QU.
Tel: 0923 246282 • 0923 246669

BEM MUSIC SUPERSTORE

395 COLDHARBOUR LANE
BRIXTON
LONDON SW9 8LQ
TEL: 071 733 6821

WE SELL MUSIC SOFTWARE

We also sell Keyboards, Sound Modules, Recording equipment and most kinds of Musical Instruments -So when it comes to making music we can advise you better than a computer shop.

STUDIO 49 Master keyboard by FATAR

Velocity Sensitive Midi controller for only.....£119 inc VAT
Roland PC150 Midi controller keyboard.....£139 inc VAT
Roland PC200 Midi controller keyboard.....£199 inc VAT

E-Magic Micrologic

For Windows
Music Sequencing and Notation
£125 inc VAT

Roland

SC7 Sound Canvas for PC is a Desktop Music system with Band in a Box and Ballade
£369 inc VAT

NEW **Monteray Card from Turtle Beach – now in stock – £389**

- **Turtle Beach Multisound Card** Multimedia sound card based on Proteus 1/XR. The Multisound has 126 CD quality, 16 Bit digital samples of real instruments, it can sample at 44.1, 22.05 & 11.025 Khz in 8 or 16 Bit resolution mono or stereo. For those who know the difference. £409
- **Turtle Beach Tahiti – Digital Audio Card** Tahiti is perfect for any recording, authoring or presentation where audio quality is a requirement. Tahiti features the Motorola DSP Chip giving 20 MIPS of processing power, samples at 44.1, 22.05 & 11.025 Khz in 8 or 16 Bit resolution mono or stereo. Audio converters use 64x oversampling, 16 Bit.....£398
- **Turtle Beach Maui Synthesizer Card** 24 voice wavetable General MIDI sound card based on Proteus 1XR and includes Samplestore, Samplestore enables the user to turn sampled sounds into instrument patches. With MPU401 compatible MIDI interface.....£198
- **Turtle Beach Wave For Windows** Graphics software package for recording, editing and playing back digital sound. Once recorded, with its professional features WAVE for Windows lets you shape your audio data to perfection.....£116
- **Turtle Tools for Multimedia** Tools to make the most out of your soundcard. WaveTools .WAV Editing, recording and playback. Midisoft recording session notation based MIDI sequencer. Soundattach – attach MIDI or .WAV files to Windows events. Tune Up – MIDI file editor. Keyplayer – Record and play music using computer keyboard. Supplied with sound Bank CD with over 1500 sampled sounds. £79
- **Wave Lite For Windows** Hard disk recording and editing of .wav files under Windows 3.1 .....£19
- **Active 55 Speakers** 25 Watt PMPO active speakers.....£35
- **Active 75 Speakers** 80 Watt PMPO active speaker with bass, treble and volume control.....£59
- **Cakewalk Professional for Windows Version 2.0** 256 track MIDI sequencer that can integrate digital audio playback, includes Score printing, real time editing and multiple edit screens. £209
- **Cakewalk DOS** 256 track MIDI sequencer with a variety of graphical views.....£115
- **SAW Software Audio Workshop** 4 track Professional hard disk editing, recording and multitrack mixing software for Windows. Supports Multisound and Soundblaster 16. .....£409
- **Personal Composer** 256 part notation, scoring and sequencing program that responds to Musical marks and expressions so the score plays as written. £360
- **Music Quest PC MIDI Interface** Industry Standard MPU 401 Compatible MIDI interface.£85
- **Music Quest MQX32M** MPU401 compatible MID interface with dual ports and SMPTE/MTC synchronisation.....£230
- **Music Quest 2 Port SE** Professional parallel port MIDI interface with 32 channels and SMPTE/MTC Support designed for Laptop, Notebook or Desktop IBM compatibles. £190
- **MIDIEngine Framelock** SMPTE syncronisation module for MIDI, Multi-Track tape and Audio/Video sync.....£149
- **SuperJam** A Powerful MIDI band Program for the tone deaf and talented alike, Superjam is a fun, easy and powerful tool for creating music. Never before has creating music been so easy. £80
- **Notaplay** Program to teach sight reading and keyboard skills for DOS & Windows.....£40
- **Rhythmplay** Program to teach musical Rhythm and Timing for DOS. £40
- **Play It By Ear** Ear training and pitch training program. Learn to recognise pitches and melodies.....£79
- **Piano** Develop and improve music and keyboard performance skills through a series of interactive courses.....£115

DEMO DISK AVAILABLE

- **New Goldstar 16 Bit Sound Card** General Midi, MPU401 Compatible, MT32 Mode.....£199
- **New Classic 3000 16 Bit Sound Card** General Midi, MPU401 Compatible, MT32 Mode.....£199
- **New CD Grab-Pro, Digital Sampling** From Audio CD's.....£57.50
- **Soundcard To Mini Lead**.....£18.50

Roland Powered Speakers Phone for Brochures

Cubase Lyte £99
Roland ATW10 Soundcard/Sampler £449
Cubase for Windows £199
Cadenza for Windows £249
Band In a Box £79
Midi Card £79

Midi Interface for Laptop	£110	Musicator sequencing and notation for Windows	£269
Roland CN20 Note Entry Pad	£49	Q-Base score for Windows	£449
Phonic 8 into 2 mixing console with Midi through	£199	Q-Base Handbook	£29
Tascam Porta 07 four track cassette recorder	£349	Roland SCC1 Soundcard	£399

Educational Discount of up to 40% on all Q-Base products

All Prices Include VAT

ALL MAJOR CREDIT CARDS - MAIL ORDER WORLDWIDE

THE HIGH Cs

Wayne Russell continues his series on C programming, this month with a look at animating graphic sprites

Our sample sprites now walk across the screen rather than glide

LAST month, we looked at a system to let us store and reproduce images on screen, and we touched on a bit of simple animation. Here we address fully-fledged movement and animation of these images.

The animation system we'll discuss was developed with a specific project in mind – a graphic adventure. It therefore has some quite powerful features for automatic cycling through a series of images to create the illusion of movement.

Of course, there's nothing to stop you writing a platform game or a version of Space Invaders – I've never done it, but the facilities are there to allow it.

Simple objects

THE panel on this page describes graphic objects – GOBs – which are software sprites. You can move them around on screen using a similar technique to that used for images last month. A short loop like this:

```
for (j=10; j<280; j++)
{
armvgob(1);
aputgob(1, j, 80);
g_SwapScr();
}
```

will move the image associated with GOB number 1 across the screen from left to right. If you want to control GOBs like this, you'll need to do an:

```
initgob({GOB number}, {Image number})
```

first, to tell the system what image you want to use.

Incidentally, the *armvgob()* and *aputgob()* functions are prefixed with *a* because they are written in Assembler.

As I said, these functions were developed with a graphic adventure in mind. We were finding that a 286 couldn't animate two large characters quickly enough using a C-language only system. There's no need to be afraid of the routines just because they were written in Assembler – just link HIGHCASM.OBJ into your programs like any other .OBJ file.

Auto movement

IT'S nice to be able to control GOBs directly in the main program, but our animation system provides for a much more convenient and flexible way of moving them around: The *movgob()* function.

This function takes four parameters:

- The GOB number
- The X-axis movement required (left/right)
- The Y-axis movement required (up/down)
- The number of iterations required.

So, if you wanted to move GOB 1 right 20 pixels and down 57 pixels in exactly 93 moves, you'd use:

```
movgob(1, 20, 57, 93);
```

To move GOB 7 left 109 pixels and up 14 pixels in exactly seven moves, you'd use:

```
movgob(7, -109, -14, 7);
```

Movgob() moves GOBs smoothly by calculating for each turn how much of the journey in each plane is yet to

The low down on graphic objects

THE animation system revolves around the concept of graphic objects (GOBs). A GOB is a discrete on-screen object that can move and animate around the screen without affecting either the background or any other GOB.

You will recall that last month's article used this very definition to describe a sprite. Therefore, the GOBs in our animation system are sprites.

A GOB is not the same as an image – it can have a list of images associated with it, for automatic animation.

Alternatively, you can set up five GOBs which each use the same image, so you can have five independently-moving Space Invaders that all look the same.

Although you can use the same technique we discussed last month for moving GOBs about – where you take control of pasting GOBs on screen and then removing them in your main program loop – one of the advantages of this system over the image-only system is the automatic movement and animation provided by the *update_GOBs()* function. These facilities are discussed elsewhere in the article.

GOBs are implemented in a structure of type GRAPHIC_OBJECT, called *gob* (surprise, surprise). The structure is included in the HIGHC.H file on the disk, and you will need to include it in any programs that use GOBs.

Each GOB has the following information associated with it:

- **Current screen position and image number being shown**
- **Current Automatic Move values**
- **Current Automatic Animate values**
- **The saved background *underneath* the GOB (the same as with images last month)**
- **Some status flags**

THE HIGH Cs

be travelled, and how many turns are left to get there.

It works very well whenever you want to move something in a straight line, and you can fine-tune the movement speed by making small adjustments to the iterations parameter.

Auto animation

ANIMATING a GOB – so that a character appears to walk or a flag flutters for example – is very easy to do, so long as you have a number of appropriate images.

You load the images into an array – as detailed in last month's article – and then place a call to *animgob()*. This function takes two parameters:

- The number of the GOB to animate
- A string containing the Animation Description

The Animation Description is simply a string of numbers and spaces that tells the system which images to use, and how long to display each image. For example, the call:

```
animgob(1, "013 023 032 023 013 ");
```

tells the system that GOB 1 should display image 1 – the *01* bit – for 3 frames.

A *frame* in this context is a screen refresh, or call to *g_SwapScr()*. The actual time involved depends on the speed of your processor and video hardware.

In this example it then flips to image 2 for three frames, then image 3 for two frames and so on.

When the system reaches the end of the animation pattern, it reverts to the start until you tell it to stop with a call to *stopanim()*. Remember to include the trailing space – it's an inconvenient blip that I just never got around to changing.

The above *animgob()* example would work for a simple *walk*-type animation. Image number 1 would be a stick-man standing side-on with both legs straight; image 2 would show his legs halfway into a step and image three would show him at full stride.

By setting up this pattern and a suitable movgob(), and then using *update_gobs()* in your main loop – discussed later on, you could create the illusion that the man was *walking* across your screen.

With a stick man and only three images involved, the illusion would require a rather major suspension of disbelief, but it's a start. Better images – and more of them – are the key to more convincing animation.

Tying it together

THE *movgob()* and *animgob()* functions don't actually do anything other than set the stage. Before you'll actually see anything on screen you need to set up a main loop that calls the *update_gobs()* function and refreshes the screen with a call to *g_SwapScr()*.

The following code segment shows you everything you must do to make the imaginary stick man we introduced in the panel, walk:

```
load_img("stick.im", 0);  // Load the images
init_gob(1, 1);  // Always init a GOB before
  using
aputgob(1, 10, 10); // Put the GOB on-screen
movgob(1, 180, 0, 180);  // Move him 180
  pixels right in 180 degree turns
animgob(1, "013 023 033 023 "); // Cycle: 1,
  2, 3, 2, 1, 2, 3...
contin=1;

while (contin)
{
M_check();
if (m.lmr)
    contin=0;

update_gobs();
g_SwapScr();
}
```

How *update_gobs()* works

THE *update_gobs()* function is really just doing the work that you would normally have to do in your main loop, but it is *clever* because what it does is based on the previous calls you have made to *movgob()* and *animgob()*. Every time *update_gobs()* is called, the following happens:

- **All on-screen GOBs are removed, in reverse order – as it stands, the system supports 10 active GOBs**
- **GOBs are now processed from 1 to 10**
- **If a GOB has had an *animgob()* issued for it, the system checks whether it's time to display the next image. If so, it does**
- **If a GOB has had a *movgob()* issued for it and it hasn't yet got where it's going, the system works out how many pixels to move it in each plane. It does this by checking how far the GOB has yet to travel and how many turns are left to get there in.**

So, if the GOB has still got to travel six pixels to the right, and has only three turns in which to get there, *update_gobs()* knows that it needs to move the GOB two pixels to the right this turn

- **The GOB is placed on screen at the new position and, if appropriate, displaying the new image**

This method of always removing and replacing all GOBs, even if they aren't moving, allows you to move characters underneath apparently stationary objects – this would be useful, for instance, if you wanted to move a character behind a table or treasure chest.

The downside, of course, is that the existing 10-GOB limit is probably approaching the feasible maximum – it takes quite a bit of computer time to do all that flipping, repositioning and screen drawing, and your animation speed would start to suffer.

You may recall Malcolm the Void from last month. I have included the full image file of all Malcolm's walking images on the disk, together with program WALKMALC.

This makes two versions of Malcolm walk across the screen, one left to right and the other right to left.

They pass over each other, so you can see how the system copes with animating GOBs that occupy the same screen space.

A good way to get a feel for the animation system would be to tinker with this program. If you change the *movgob()* calls, you can alter the range and speed of the movement; if you change the *animgob()* calls you can alter the speed and nature of the animation.

Limitations

THE GOB system is far from perfect: It is really a prototype – albeit a fairly complete one – and it was developed with the specific needs of a graphic adventure in mind.

We might address some of the limitations as we come up against them, but in the meantime I offer you a list of weaknesses that you might want to have a crack at strengthening:

- GOBs are always displayed in strict sequence – 2 will always appear in front of 1. It would be nice to allow a system that displays GOBs lower down the screen in front of any GOBs higher up – this creates a useful perspective effect
- GOBs are always positioned by reference to the top-left corner of the image. This is rarely the most convenient way to do it, and a *Handle* system – whereby you can position an image by reference to some soft-coded point within or around it – would be better
- There's no automatic collision detection – this is really because I had no need for it in a graphic adventure
- It would be nice if the system could flip an image on-the-fly to give a mirror-image without having to store it as a whole extra entry in the array – in our simple Malcolm the Void example, this facility would save 20k of precious memory

- *The last two articles have really been little more than instructions on how to use the supplied functions. Next month, we'll get back into something a bit more basic when we have a look at examining, setting and manipulating the VGA colour palette.* PCH

m2 The Power Behind Multimedia

Telephone: 0705 233088
Fax: 0705 787599

Star Buys

Panasonic 562
£117.00
Pack 1 Compilations
£29.00
While stock lasts

CD ROM DRIVES

Panasonic 562
£117.00

Panasonic 562
Megablaster 16 bit Sound Card
External Speakers
Headphones – Earphones
£175.00

Panasonic 562
Soundblaster 16 Creative
£189.00

Panasonic 562
MCD Interface card
£129.00

Mitsumi FX001D £125.00
Creative 563 External £195.00
Creative 563 Internal £149.00

MCD Interface Card
(Panasonic – Mitsumi – Sony)
£12.00

PC TOP TITLES

Rebel Assault
Microcosm
Megarace
Elite 2
Day of the Tenticle
Myst
Lawn Mower Man
Ultima 8 + Speech Pack
Dune & Seventh Guest
Gabriel Knight
Dragons Fear

MAC TOP TITLES

Iron Helix
Myst
Tortoise & the Hare
Journeyman
Dracula Unleashed
New Kid on The Block
Dinosaurs
Space Shuttle
Grolier V6
Seventh Guest
Creepy Crawlies

ALL PRICES EXCLUDE VAT AND DELIVERY
DELIVERY COST £7.50 FOR HARDWARE
£3.50 FOR SOFTWARE

SOUND CARDS

Soundblaster 16	£68.00
Soundblaster 16 MCD i/f Card	£79.00
Soundblaster 16 MCD	£103.00
Soundblaster 16 MCD – ADSP	£123.00
Soundblaster 16 SCSI 2	£123.00
Soundblaster 16 SCSI 2 ADSP	£144.00
Soundblaster AWE 32	£189.00
Gravis Ultrasound 3D	£99.00
DRAMS	£6.00
Orchid Soundwave 32	£149.00
Megablaster 16 MCD External Speakers Headphones Ear Phones Bundled Software	£69.00
Wave Megablaster	£75.00
Gravis Analogue Pro. Joystick	£29.00
Megablaster Amplified Speakers	
Megablaster CS 1020	£19.00
Megablaster CS 1045	£29.00
Megablaster CS 1150	£49.00
Music Centre with Speakers, Headphones and Earphones	£15.00

COMPILATIONS

PACK 1

Doom
CD Rom of CD Roms
Sing Along Karaoke
World Atlas
Jets and Props
Animation Festival
Kings Quest 5
Time Man of the Year
Stellar 7
Wayzata World Fact Book £29.00

PACK 2

Animals
Groliers Encyclopedia
Mavis Beacon Typing Tutor
Chess Master
World Atlas
US Atlas £49.00

PACK 3

Robo Cop 3D
F29 Retaliator
Push Over
Epic
Paper Boy 2
Might and Magic II
D/Generation
Contraption Zack
The Chess Master 2100 £15.00

PC BUNDLED TITLES

TFX	£18.00	F15 Strike Eagle	£15.00
Rebel Assault	£18.00	Dinospace Adventure	£20.00
Return to Zork	£18.00	Encarta 1994 (Subject to Availability)	£49.00
Mega Race	£18.00	Inca	£15.00
Seventh Guest	£18.00	Virtual 3D	£15.00
Dune	£18.00	Auto Registry 1994	£15.00
Critical Path	£18.00	World Traveller	£9.00
Mayo Clinic	£15.00	Fonts Platinum	£9.00
Family Doctor	£15.00	Games Platinum Windows	£9.00
Battle Chess Enhanced	£12.00	Multimedia Platinum	£9.00
Grolier V 6	£25.00	Home & Business Platinum	£9.00
1992 Telegraph	£49.00	Windows Platinum	£9.00
Compton's Encyclopedia	£25.00	20th Century Almanac (5 CDs)	£30.00
Chess Master 4000	£15.00	Corel Draw 3.00	£39.00
Fatty Bear's Birthday Surprise	£15.00	Dracula Unleashed	£18.00
Interactive Story Time 1	£15.00	Iron Helix	£18.00
Interactive Story Time 2	£15.00	Kodak CD Photo	£10.00
Interactive Story Time 3	£15.00	McMillan Dict. for Children	£15.00
Kings Quest VI	£15.00	Microsoft Works	£25.00
Loom	£12.00	Money Money Money	£15.00
Mad Dog McCree	£18.00	World Atlas 4.0	£15.00
Mixed Up Mother Goose	£12.00	Where in the World is Carmen	£18.00
Putt Putt's Fun Pack	£15.00	Heaven Series	Each £9.00
Putt Putt Joins the Parade	£15.00	All 8 of Heaven Series	£65.00
Putt Putt Goes to the Moon	£15.00	Hutchinson's Encyclopedia	£20.00
Sports Best	£12.00	Berlitz Think & Talk Series	Each £79.00
Magic Death	£15.00	Animals	£12.00
Time Table History	£12.00	Microsoft Bookshelf	£25.00
Backyard Racers	£20.00	Microsoft Cinemania	£31.00
Gunship 2000	£15.00	Publish it Windows	£29.00

SOFTWARE HOTLINE 0705 787588 – HARDWARE 0705 233088

10% OFF EVERYTHING

OFFER ENDS 30TH JUNE 1994

TO PERSONAL CALLERS ONLY!

Excludes Books And Special Offers

SPECIAL OFFER

FINE ARTIST
CREATIVE WRITER

With This Ad. £29.95 each

WE WILL DEMO ANY CD-ROM TITLE!

* NEW RELEASES * NEW RELEASES *

WHO SHOT JOHNNY ROCK CD - 35.95
PAGAN ULTIMA VIII CD - £45.95
MEGARACE CD - £29.95
MYST CD - £34.95

MEGARACE CD-ROM £19.99

When Purchased With Any CD-ROM Drive

CD-ROM DRIVES

PANASONIC 562B DOUBLE SPEED
Plugs Directly Into Soundblaster Pro Or Soundblaster 16

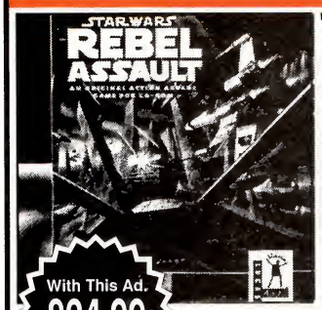
FITTING SERVICE AVAILABLE TO PERSONAL CALLERS

SONY CDU33A DOUBLE SPEED
Complete With Interface Card Or Plugs In Orchid Soundwave 32

£139.99

KINGS QUEST 6 CD-ROM £19.99

LIMITED QUANTITY ... SO HURRY ...



With This Ad. £24.99 SPECIAL OFFER

TORNADO CD-ROM £19.99 (Limited Quantity)

OPEN UNTIL 7PM MON TO FRI
5:30PM ON SAT

"Why CD-ROM Was Invented!"

BIRMINGHAM'S BEST!

* VISA * ACCESS * MASTERCARD * SWITCH * AMEX *

FREE ADVICE TO PERSONAL CALLERS

Knowledge BOX
1334 Warwick Road,
Olton
Birmingham
B27 6PR

ALL PRICES EX. VAT & CARRIAGE

TEL 021 706 4440

tech-mate uk

96 High St, Colchester, Essex. CO1 1TH

Tel / fax 0206 769176

Midicon Midi Keyboard,
2 Octave with 8 Octave range
Only £89.95
inc VAT & Delivery

Huge selection of midi keyboards. Call for brochures

CD-ROM DRIVES

Mitsumi X001D only
£139 + VAT
Panasonic 562B inc software £139 + VAT

We Stock home recording & hi-tech keyboards call for brochures

TURTLE BEACH

The Best Cards

Mavi – GM + sample store	£185
Tahiti – Superior 16 bit sampling	£289
Monterey – Both the above & effects	£385

All include VAT

YAMAHA

HELLO! MUSIC!

The Best Package! CD quality GM module, Steinberg sequencer / notation software, midi jukebox, 20 FREE songs and cables, No card needed, runs from serial port.
ONLY £349 inc VAT

NEW!

Amazing Classic 3000 Sound Card. Brilliant samples for music + FM compat for games. Bundled with Cubase Lite 16 bit sampling

ONLY £219 inc VAT

SOFTWARE

Cakewalk Pro 2	£249
Cakewalk Home Studio	£129
Cubase Window	£180
Cubase Lite	£89
Procyon 32 track	£45
Turtle Tools	£70
Encore–The best notation	£419
Sound Impression	£30
Musicator	£245
Wave Windows	£109
Band in a Box	£75
The Pianist	£45
Midi file packs	£9.95
Music Time Notation	£199

Lots of other software available.

HARDWARE

Soundblaster Value 16	£99
Soundblaster AWE32	£249
Roland SCC-1	£329
Roland PC200 GS	£165
Microsound Active speakers, full range, brilliant	£129 pair
Fatar Studio 49 keyboard	£105
Fatar Studio 61 keyboard	£185
Musicquest midi interface card	£75
Key Serial interface	£105

CALL FOR BROCHURES

All prices include VAT

PROGRAMMING FOR BEGINNERS

Mark Ballard takes up the unenviable task of explaining coding for novices. What better place to start than the beginning?

FOR programmers, it is wise to be well versed in the basics. Programming is not a complex task, it is simply a matter of telling the computer what to do in a language that both the computer and the programmer understand.

Such a language is the middle ground between computer and human. So a programmer is really only an information-age translator. A knowledge of programming basics can be kept and ported to different languages as they are learnt.

The only difference between most languages is usually one of syntax – that is, the way the words in a language are arranged and connected.

A computer language, like any that are spoken, has a unique set of words which are the building blocks of any communication in that language. These are usually referred to as *reserved words*. They are referred to in this way because they are reserved for use only in the specific instances that the rules of the language dictate.

A computer language compiler then, is a bit like a snotty Englishman. If you fail to use the reserved words of its language in the right instance or syntax, it will simply ignore you. Although, it may tell you where you have gone wrong.

Words of a language often mean little if they are not combined to form sentences. In a programming language, a sentence is normally referred to as a *line* of code. A line does not always actually fit on a single line of screen space and is allowed to wrap on for a number of screen lines before it comes to an end.

Lines of code are put together to form programs and programs are put together to form systems. It's that simple. But how, exactly, are lines of code put together to make a computer program? The most basic, and obvious, method, is to put them in a sequence. Like so:

```
PRINT "hey"
PRINT "nonny-nonny"
```

These are two very simple lines of code in the language Basic, which follow on, one from the other in a logical order. In computer terms this is known, believe it or not, as a *sequence* – computer terms that make immediate sense are quite rare.

When a computer runs a program it tackles it top-first, so a sequence is also the easiest program construct for the computer to understand and perform.

One of the next most important constructs is the *loop* or *iteration*. There are some instances where a programmer needs a certain line of code to be executed more than once.

It rarely makes sense to write the line out for each time it needs repeating, particularly if it must be repeated often. Loops allow code to be executed repeatedly without the need to replicate code lines within the program.

The classic construct is the FOR loop, which is derived from mathematical terminology. A Basic example is:

```
FOR num = 1 TO 10
PRINT num
NEXT num
```

Read in English, this code says: For every *num*, where *num* is an integer number between 1 and 10, print that number on the screen.

Notice the shape of the construct. The first and last lines mark the boundaries of the loop. It is still executed in sequence, but is repeated a number of times, depending on the values in the first line.

Giving *num* a set of values in which to exist – in this case the numbers from 1 to 10 inclusive – will define the number of iterations the loop can make. The NEXT statement tells the program to give *num* the next value from the specified set and start executing the loop all over again.

In this example *num* starts with a value of 1, which is printed by the second line of the program:

```
PRINT num
```

Then:

```
NEXT num
```

assigns *num* with the new value, 2, which is also printed. This process continues until the value of *num* becomes 10.

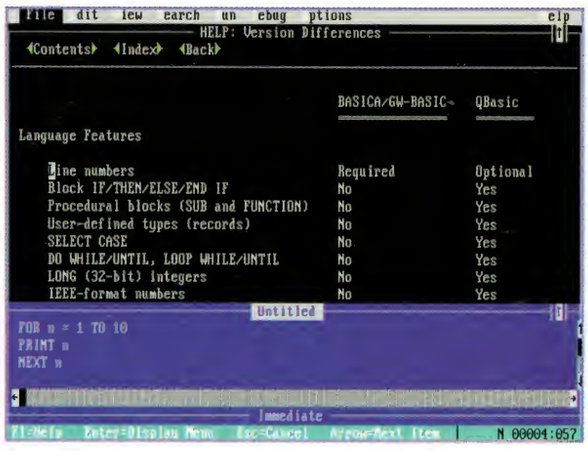
After *num* is printed with the value 10, *NEXT num* realises it has reached the limit specified by the FOR statement in line 1 and exits the loop. The rest of the program will continue in sequence if there is any more code to execute.

So if you want a line of code to execute 10 times put it in a for loop where *num = 1 TO 10*. Run this code and see what happens. Then try changing the numbers in the FOR statement and run it again.

Start right now?

ANYONE who has Dos – and let's face it if you have a PC, you probably do – should be able to start programming straight away. Early versions of MS-DOS came with GW-Basic, while versions 5.0 onwards are supplied with QBASIC. You'll also find IBM's PC-Dos has the same.

I'm not sure that DR-Dos – or Novell Dos as it's now known – has ever come with a Basic interpreter.



QBASIC – supplied with recent versions of MS-DOS – comes with a good help system

An early program

AS programmers tend to lead a solitary life, they have to do unusual things to amuse themselves, such as writing quaint little computer programs. Use this sad example to lose the respect of your last remaining friends, thus completing your initiation:

```
INPUT "What do you think is great?"; cushty$
FOR n = 1 TO 100
PRINT cushty$; " is great. "
NEXT n
```

Notice that the loop in this program will execute 100 times. The main differences between this and the one we looked at before are the *INPUT* statement on line 1 and the *PRINT* on line 2.

INPUT will cause the computer to display the text contained by the quotes and await user input, which will be stored in the variable *cushty$*.

A variable refers to a reserved space in the computer's memory that may be assigned a variety of different values at different times. It is referred to by a name of the programmer's choosing – *cushty$* in this case – and is reserved simply by naming it. In Basic, placing a $ at the end tells the computer this is the name of a string variable.

● *That's all for this month. Until next time, why not play around with what we have done so far to see what variations you can come up with.* PCH

SYSTEMATIC

Confused by memory set ups and your Config.Sys file? Suffering Autoexec stress? Help is at hand from the *PC HOME* team

Making Dos easy Part two

ONE of the most confusing areas for newcomers to the world of PCs, and come to that, even experienced users, are system files. Dos uses a total of five files, and each is vital.

Two of them, called Io.Sys and Msdos.Sys with Microsoft's MS-DOS, but named slightly differently with other versions of operating systems, lurk in the root directory hidden from view.

These must be present for Dos to operate and should not be tampered with. Another file, Command.Com isn't hidden, but again this must not be deleted or changed in any way.

The two which do need editing, are the Config.Sys and Autoexec.Bat files. Although Dos doesn't always need either of these to operate, they are important if you want to use extra peripherals such as sound cards and CD-Rom drives, and to get the best from your system.

On boot-up, all versions of Dos look for the Config.Sys file. This sets up memory allocation and loads software drivers for various hardware – sound cards, CD-Rom drives and so on. After this, Dos looks for the Autoexec.Bat file. This also loads drivers, plus it runs mini-programs which can be required by some peripherals.

In the panels are typical examples of the files, with an explanation of what each line does. Don't worry if your files don't look like this – different machine will have different settings. If you own MS-DOS 5.0 or later type Help and then the name of the command, or the command followed by a ?, for more information on what it does and available switches.

Autoexec.Bat

```
Line 1  echo off
Line 2  PATH C:\DOS;C:\WINDOWS;C:\WINDOWS\CPS;C:\WINDOWS\QTW\BIN;C:\SBPRO
Line 3  LH C:\DOS\MSCDEX /V /D:CD-ROM /M:15 /E
Line 4  LH C:\DOS\SHARE.EXE /L:500 /F:5100
Line 5  C:\DOS\SMARTDRV.EXE /L /X
Line 6  SET BLASTER=A220 I7 D1 T4
Line 7  C:\SBPRO\SBP-SET /M:12 /VOC:12 /CD:12 /FM:12
Line 8  SET MOUSE=C:\DOS
Line 9  SET TEMP=C:\
Line 10 SET DIRCMD=/O:GEN
Line 11 SET SOUND=C:\SBPRO
Line 12 C:\DOS\MOUSE
Line 13 LH DOSKEY
Line 14 PROMPT $P$G
Line 15 C:\WINDOWS\TWAIN\\HPSCANER.EXE /O
```

Line 1 Unless the this line is added at the beginning, each line of text in this file will be displayed one-by-one on boot-up. Things can look a little messy

Line 2 Tells Dos where to look for a file. Dos always looks at the root and current directories. The path command tells it where else to search. The Dos and Windows directories should always be included here. With the former included for example, you can run a program from the Dos directory no matter which directory you are logged into

Line 3 MicroSoft CD Extensions sets-up a CD-Rom drive. The name of the drive after /D: should be as defined in the Config.Sys file. /V displays a memory report, /E puts the driver into expanded memory, while /M sets the number of buffers

Line 4 Share is required by many Windows programs. It enables data sharing, including Object Linking and Embedding (OLE) between applications. /L specified the number of files, /F the number of bytes

Line 5 Creates a disk cache in extended memory (with the /X switch). This reserves an area for data to be stored when read from a drive. It can then be passed back to the processor very quickly. /L prevents it from automatically loading into upper memory. Several more switches are available and the size can be pre-determined

Line 6+7 Defines SoundBlaster set-up looked for by some software. The numbers signify the address, interrupt, DMA channel and er, something else

Line 8 Defines where the mouse driver can be found. Used by some programs... apparently

Line 9 Some programs including Windows create temporary files while running. This line indicates where to put them. Some users like to have a directory called Temp, but it isn't really necessary

Line 10 Nice one this. Sets default options for the Dir command so that when you type it, the data is presented in a particular way. /O for example means that files are always shown in alphabetical order. Type Dir ? In Dos to see a list of available letters

Line 10 Loads the mouse driver. Necessary for Dos programs, but not for Windows

Line 13 With Doskey loaded you can recall commands under Dos by pressing the up cursor key

Line 15 This line ensures that when you are in Dos, the prompt includes the directory name so you know which directory you are logged into, and a > symbol to makes things clearer

Line 15 Another driver for a scanner

Although the path has been defined here, this isn't strictly necessary as we have already told Dos where it should look for files in the second line

LH or LoadHigh loads the driver into high memory. If you run MemMaker, specific memory addresses are added after these words. They were removed here for clarity

Editing system files

TO change a system file, you will need to edit it. The files themselves are simply text files. Users of MS-DOS 5 or later should use the Dos program called, imaginatively, Edit.

Those who have older versions can use Edlin which was supplied up until MS-DOS 6.0, although this is a cumbersome program. The files can be edited with a wordprocessor if you save as text only.

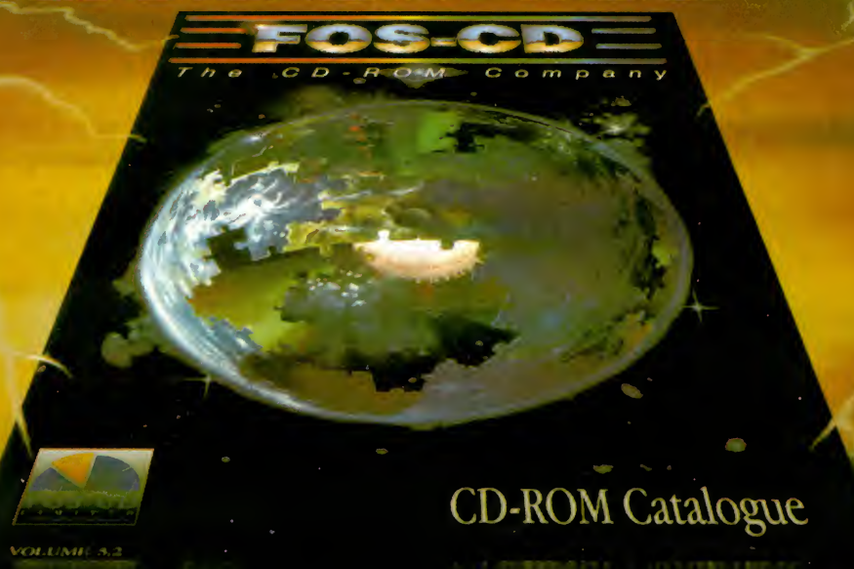
Quick booting

IF you wish to boot-up MS-DOS 5.0 or later without loading the system files, you can hold down F5. Don't press it until the hardware has initialised, or you may enter a hardware setup menu.

Another useful key is F8 which loads the Autoexec.Bat and Config.Sys files line by line asking for conformation before each line is activated.

Often imitated, but never bettered..

The FOS-CD CD-ROM Catalogue - 100's of superb CD-ROM titles at great prices



For your free copy, call FOS-CD today.

FOS-CD Limited, Unit 2 Acorn Farm Business Centre, Cublington Road, Wing, Bedfordshire LU7 0LB, United Kingdom - Telephone 0296 682233 - Fax 0296 682011

THE FIRST £59.95 MODEM

Announcing the end of the unapproved, Imported Modem

THAT'S BABT APPROVED, BRITISH...

At under £60, our all new, WHITE*box* DF96/24 fax & data modem has to be the bargain of the year.

It is fully BABT approved (what other modem at this price is?) and comes ready to plug-in and go, making it ideal for anyone to new to the world of data communications – plus of course, you can use it to send or receive faxes. What's more, being a 'pocket' modem, with battery or mains option, it is equally suitable in the office or on-the-move.

WHITE*box* DF96/24

DATA MODES: V.22bis (2400bps), v.22 (1200bps).
FAX: MODES: V.29 (9,600/7200) trans, v.27ter (4,800/2,400) trans/rec V.21 Ch2 (300bps) trans/rec. Class 1, Group 3 Fax.
ERROR CORRECTION: V.42/MNP 2-4 (using RPI compatible S/W in host system).
DATA COMPRESSION: V.42 bis/MNP 5 (using RPI compatible S/W in host system).
FAX SWITCHING: Data/Fax discriminator while auto-answering.

APPROVED for connection to telecommunication systems specified in the instructions for use subject to the conditions set out in them.

UPGRADE SPECIALS

V.32bis, 14,400b.p.s. when you're ready, part exchange your DF96/24 for a high performance, modem – ask for details.

Trans-Send Pro £49 Powerful Fax & Comms for Windows and DOS.

...AND PLUGS YOU INTO THE WORLD OF COMPUSERVE

You already know that CompuServe is the world's largest on-line information serviceand that its members enjoy instant access to the a world of information, communications and entertainment.

What you don't know is just how little it costs to get on-line - especially as we've joined forces with CompuServe to include a special trial membership pack.

So, as well as the WHITE*box* DF96/24 modem (itself approved by CompuServe's own technical team) for £59.95, you get:

FREE WinCIM™ - The CompuServe Information Manager™ for Windows that makes getting around CompuServe a breeze • *FREE* on-line time - £10* worth of CompuServe's extended services. • *FREE* 1 month† unlimited use of basic services - worth £6*. • *FREE* Monthly Magazine - Keeps you up-to-date with the world of CompuServe.

WHITE*box* DF96/24 MODEM + COMPUSERVE STARTER PACK – £59.95 (ex vat)
Modem requires PP3 battery (not supplied)
or *SAVE MONEY WITH* A MAINS ADAPTOR – ONLY £6.50
TRANS-SEND LITE (Fax & Comms S/W) – £4.95

ORDER 0784 421123 DIRECT

For Orders & Information – Just call our Hotline, Mon-Fri. We accept most major credit cards and deliveries are usually dispatched within 48 hours (subject to availability.)
All prices exclude VAT & Carriage.

* CompuServe is an international service, priced in US $'s. Billing is in £'s, based on prevailing exchange rates † When accessing via a CompuServe node.

EXPRESS TECHNOLOGY
THE COMMUNICATIONS COMPANY

EXPRESS TECHNOLOGY LTD., ASHFORD ROAD, ASHFORD, MIDDLESEX. TW15 1XE TEL: 0784 421123 FAX: 0784 421910

Memory matters

COMPUTERS need memory to store data while they are working. The more they have, the more complex the applications that can be run and sometimes, especially under Windows, the faster they will run.

The PC was designed to have a maximum of 640k memory. This is known as conventional or base memory – the area where all Dos programs are loaded into.

It didn't take long before it was realised that more would be needed. Extended memory (XMS) was the answer, and is usable by all 286 PCs or better. As the name implies this is simply an extension of conventional memory. Unfortunately the processor has to be switched into a different mode to recognise it and so software has trouble using it.

Far more accessible to applications is Expanded memory (EMS), although this can only be used by 386s or better. The driver EMM386 tricks Dos into thinking it is part of normal memory and is accessed in 64k chunks from upper memory.

What's upper memory? This is the area between 640k and 1,024k. Using DeviceHigh and LoadHigh (LH) it is possible to put drivers and programs into this area to save precious base memory. This space is also used by hardware when ROM shadowing is employed – used by some PCs to speed up applications.

Finally we have a curious area called high memory, which sits between 1,024 and 1,088k. Only one program at a time can be put here, and it's usually Dos itself which is loaded with the Dos = High command in the Config.Sys file.

The memory managers mentioned, and those shown in the table below are the most commonly used, but third-party memory managers such as QEMM from Quarterdeck are also available. Some programs also include their own managers. You may have seen DOS/4GW which allows games like Indycar racing and Doom to look at extra memory as one large chunk instead of as conventional, upper and extended.

Memory type	Address range	PC type	Managed by
Conventional (base)	0-640k	All	Dos
Upper	640-1,024k*	386+	EMM386.SYS
High	1,024-1,088k	286+	HIMEM.SYS
EMS (Expanded)	1,024k+*	286+	HIMEM.SYS
XMS (Extended)	1,024k+	386+	EMM386.SYS

** This area is used when drivers are loaded high with DeviceHigh and LoadHigh (LH). Not all of the space is always available, some is used by rom shadowing*
*** Accessed 64k at a time from the upper memory area (640-1,024k)*

How much?

OF all the applications available for PCs, games are the most demanding. Most need at least 560k of base memory spare. Some require as much as 600k. A typical mouse driver can take 20k, a CD-Rom driver 40k, DoubleSpace 40k (or 30k with MS-DOS 6.2) and there are many others that you may need.

Clearly once these drivers are loaded, there isn't going to be enough for programs to run. This is why a PC which appears to have lots of memory, say 8Mb, may not be able to run a program which requires just 580k.

It is therefore vital that you load as many of the drivers into upper memory. This can be done manually by adding the DeviceHigh or LoadHigh commands in front of each line in the system files.

Alternatively you can run MemMaker (or RamBoost with IBM Dos) which attempts to arrange the drivers in such a way as to leave maximum base memory. It's quite simple to use – simply follow the instructions. Once processed, MemMaker will inform you of any change and give you the chance to revert back to your old settings if necessary.

Finally, it's worth reminding you of the Mem command. This tells you how much memory your machine has in total and the amount available. Adding the /C switch gives more in-depth information, although this normally scrolls off the screen, so type Mem /C |more, to view it a page at a time.

● *We haven't had space this month to explain multiple Autoexec and Config file setups. We'll be taking a look at these next month. In the mean time, if you have any queries, drop us a line, c/o Workshop at the usual* PC HOME *address*

Config.Sys

```
Line 1   DEVICE=C:\DOS\HIMEM.SYS
Line 2   DEVICE=C:\DOS\EMM386.EXE RAM 7104 /I=E000-EFFF D=128 M9 A=4
Line 3   rem DEVICE=C:\DOS\EMM386.EXE NOEMS /I=E000-EFFF D=128 M9 A=4
Line 4   buffers=20,0
Line 5   files=20
Line 6   dos=high, UMB
Line 7   FCBS=16,0
Line 8   LASTDRIVE = E
Line 9   DEVICEHIGH  =C:\SBPRO\DRV\CDMKE.SYS /D:CD-ROM /SBP:220
Line 10  country=044,,c:\dos\country.sys
Line 11  stacks=9,256
Line 12  DEVICEHIGH=C:\DOS\SMARTDRV.EXE /DOUBLE_BUFFER
Line 13  SHELL=C:\DOS\COMMAND.COM C:\DOS\  /p /e:256
         DEVICEHIGH=C:\DOS\SETVER.EXE
         rem DEVICEHIGH=C:\DOS\RAMDRIVE.SYS 512 256 32 /E
Line 14  DEVICEHIGH =C:\DOS\SCANDEVG.SYS /H5
Line 15  rem DEVICEHIGH = C:\DOS\RAMDRIVE.SYS 512 256 32 /E
Line 16  rem DEVICEHIGH = C:\DOS\DBLSPACE.SYS /MOVE
Line 17  rem DEVICEHIGH=C:\VIRUS\GUARD
```

Line 1 Manages the use of extended memory. Must come before any drivers which use extended memory. Best to put it first

Line 2 This should always come next. The Expanded Memory Manager simulates expanded memory and allows access to the upper memory area on a 386PC or above.

Line 3 An alternative line for EMM386, setting up with no EMS. Note the Rem at the beginning. Standing for REMark, this tells Dos 5.0 or later to ignore this line

Line 4 A primitive disk cache. Determines how much memory is reserved for transferring data to and from disks. 30-40 is normally enough. Set to less if you use SmartDrive. Each buffer uses 0.5k of memory

Line 5 Sets the number of files which can be opened simultaneously. Mainly used by databases and the like. 20-30 is normally enough. Each takes memory, so don't set too many

Line 6 Puts MS-DOS into high memory – saving base memory – and gives other programs access to upper memory

Line 7 Control blocks used by older programs to store information. Rarely needed

Line 8 Dos allocates around 100 bytes of memory per physical drive. By setting the last letter to be used, you can save memory

Line 9 A driver which initialises a CD-Rom drive. This line varies between models. The CD-ROM in the line is the name I have given to the drive.

Line 10 Defines which county the PC is being used, so that time, date and currency symbol are in the correct format. The numbers are the same as the international dialling codes: Britain is 44

Line 11 Determines how much memory to reserve for processing hardware interrupts. The first number is the number of stacks, the second how large they are. Not always necessary, but 9,256 is the norm

Line 12 This line doesn't enable SmartDrive, it allows double buffering which may be necessary if you use EMM386 and run Windows in Enhanced mode

Line 13 Dos needs space to remember things such as paths. The /P tells it to stay permanent while the /E:256 tells it that it can have 256k of memory

Line 14 A driver for a scanner. This type of line varies massively between hardware

Line 15 If you have enough memory, you can set up a virtual drive in memory. To Dos this looks like a hard disk, although data can be transferred much quicker. If you setup a ram drive, it's a good idea to make it the source for temporary file. This can speed up Windows. /E places the drive in extended memory

Line 16 Driver added when you install DoubleSpace, Microsoft's disk doubling program. This line moves the driver into upper memory. The driver with MS-DOS 6.0 takes 40k, with version 6.2 it is about 30k – still a sizeable chunk. Don't install DoubleSpace unless you are sure that you can spare the memory

Line 17 A driver for a virus checking program

Note here that we have defined where the Country.Sys file exists. This is vital if the file is not in the root directory

DeviceHigh loads the driver into upper memory. Cannot be used with some drivers, particularly those which control memory such as EMM386 and HIMEM. If you run MemMaker, specific memory addresses are added after DeviceHigh.

LINEFEED

Unit 7 Ashmead Business Centre, North Crescent,
Cody Road, London E16 4TG

Phone 071 474 1765 NO CREDIT CARD SURCHARGES Fax 071 474 3440

Professional Quality Bulk Disks

High clip Dysan / Sony / Verbatim bulk.
(Disk prices include VAT and Delivery)

	10	20	50	100	200
DSDD 3.5"	£5.20	£9.95	£22.50	£38.50	£69.95
DSHD 3.5"	£8.50	£13.95	£28.95	£55.50	£104.00
DSDD 5.25"	£4.50	£7.20	£13.95	£22.50	£42.00
DSHD 5.25"	£6.00	£11.20	£22.50	£39.50	£75.00

SPECIAL OFFERS
100 Fully Warranted DSHD 3.5" Disks (Unformatted USA Manufactured) **£52.00** Including Vat and Delivery
100 Preformatted Grade A DSHD 3.5" Disks with 100 Capacity Lockable Box **£54.50** Including Vat and Delivery
All disks supplied with labels and full warranty. Cheaper disks - call

BOOKLETS - NO VAT, DELIVERY FREE
COMPUTER TRADE DIRECTORY UK Suppliers.....**£6.50**
BUILD YOUR OWN PC New Edition.....**£5.00**
BUILD A MULTIMEDIA PC Covers Upgrades **£7.50**
INTERNATIONAL TRADE DIRECTORY.....**£12.50**

FAX MODEM CARDS Delivery on Hardware Etc £5 per order
Group 3 Fax 9600 bps with Winfax Lite Software, Hayes compatible Modem 2400 bps. **£40 + VAT = £47.00**

CD ROM DRIVES Delivery on Drives £5 per order
SONY CU33A Dual Speed and Interface.....£131 + VAT = **£153.93**
PANASONIC CR562B Dual Speed Drive.....£135 + VAT = **£158.63**
CU33A Drive + Sound FX 16 bit Stereo Card.....£205 + VAT = **£240.88**
Panasonic CR562B with SoundBlaster Pro.....£199 + VAT = **£233.83**
CR562B with Gravis Ultrasound & Interface.....£255 + VAT = **£299.63**
Any drive with Megarace + £23, Tornado + £19, 7th Guest + £27.50
Falcon AT & Stunt Driver & Tank & Flight Of The Intruder + £22.50

10 CD pack: Doom, Seller 7, Time: Man of the Year, World Fact Book, Best of Media Clips, World Atlas, PC Karaoke Classics, CD-ROM of CD-ROM's Kings Quest V and PC Animation Festival
Only £58.75 including VAT and Delivery when ordered with any CD Drive or Soundcard (otherwise £74.95 inc)

SOUND CARDS Delivery £5 per order
SoundBlaster Pro (with Panasonic CD interface).....£58 + VAT= £68.15
Sound FX 16 Bit Stereo (with Multi CD interfaces).....£80 + VAT= £94.00
Galaxy Pro 16 Basic (with multi CD interfaces).....£99 + VAT= £116.63
NEW Gravis Ultrasound V3.7 3D 16 Bit.....£115 + VAT = £135.13

HARD DISKS (Conner, IBM, Seagate, WD etc). Delivery £5 per order
210Mb.....£149 + VAT = £175.08 250Mb .....£169 VAT = £198.58
340Mb.....£195 + VAT = £229.13 425Mb .....£229 VAT = £269.08
HD prices are currently unstable. Call for updates.

FLOPPY DRIVES Delivery £5 per order
Panasonic 3.5" 1.44Mb.....£27 + VAT = £31.73

SIMMS - £CALL

PRICES IN THIS BOX INCLUDE VAT AND DELIVERY

LOCKABLE STORAGE BOXES

Capacity	40	50	100
3.5"	£3.95	£4.95	£6.95
5.25"		£5.95	£7.95

STACKABLE DISK BOXES

	Cap. 80 x 3.5" (BANX)	Cap.200 x 3.5" (Medialife)
1	£11.95	£18.95
3	£31.50	£47.50
5	£47.50	£74.50

Library Cases: (For 10 Disks)
3.5" - 95p 5.25" - £1.19
Head Cleaning Kits
(3.5" or 5.25") £2.40
Mouse Mat £2.85
Mouse House £2.50
Serial Mouse £13.90
Printer Cables
2m £4.90 5m £8.95
Data Switches 2 way £12.50
4 way £22.50
Screen Filters
Micromesh - **£12.95**
Optical Glass - **£24.95**
RE-INK Renews 20 - 40 Ribbons **£12.95**
INKJET REFILLS Each Kit Provides 2 To 4 Refills
BLACK £12.99 COLOURS £14.95
HP HIGH CAPACITY £16.95
HP 500C Tricolour £21.50

Minerva CD SOFTWARE
VAT included
P&P £4.50

Minerva II.....£11.50
Minerva III.....£14.50
Minerva IV.....£16.50
Minerva V.....£19.50
Any 3.....£41.50
All 4 (25,000 Titles).....£49.50

486 MOTHERBOARDS
3XVL 256K Cache ZIF Socket
SX25 £120 + VAT = £141
DX33 £235 + VAT = £276.13
DX2-50 £255 + VAT = £299.63
DX2-66 £325 + VAT = £381.88

Prices Include VAT. Delivery £5 per complete order unless otherwise stated (Prices for Disks and other consumables include delivery) Overnight & Sat. Delivery add £3

BUYING CD ROM DRIVE OR CD DISKS ???

Then Join the CD ROM USER GROUP (UK)

(For IBM & Compatible PC'S)

- Monthly Newsletter with News, Reviews, Members Ads / Letters / Photo CD / CDI etc
- FREE Competitions to win Great Prizes
- Special Offers On CD Drives and Hardware
- HUGE! Discount Prices on CD Disk Titles
- CD Exchange, Swap your CD's
- CD Hire Library of Shareware CD's etc
- Technical Help & Advice
- CD Pressing Service
- PLUS OFFERS DIRECT FROM SUPPLIERS

All this for just £29.99 PLUS A FREE CD Disc & our CD Utilities Shareware Floppy Disk.

Send a cheque or P/O made payable to:
CD ROM USER GROUP, 48 ASHDOWN ROAD, BEXHILL. TN40 1SE

Call us (24 Hrs) for more information on
TEL: 0424 730326

NEW NEW

Just Released on CD-ROM

The Latest and Best Award-Winning Shareware Games

LESS THAN 5p* A GAME

The Very Best ....

Games Volume 1

We are proud to announce the launch of a CD-ROM that brings you the very best shareware games for both MSDOS and Windows. Our emphasis is on both Quality AND Quantity. Using the phenomenal capacity of the CD-ROM, we provide over 450 games in uncompressed format, ready to run...hassle free!! We have selected only the very best titles from the 1000s available, including the latest and best titles from major companies such as Epic, Apogee and Id.

And remember all the games come ready to run. Among the many titles you will receive are:

Doom, Xargon, Wolfenstein 3D, Spear of Destiny, Duke Nukem, Major Stryker, Shooting Gallery, Epic Pinball, Jill of the Jungle, Cosmo, Blake Stone, Halloween Harry, Commander Keen, Galactix, Mastermind, Pirada, Sherlock, Chess, Mahjong, Poker, Blackjack, Anagram, Word Games...and many more Arcade, Adventure, Educational, Casino, Card, Simulation and Strategy games too numerous to mention.

We guarantee there is absolutely no padding – only the very best games are included.

The Very Best ...

Games Volume 1 is available for the all inclusive price of

Just £24.95*

or any 10 titles for £15.00* on 3.5" disks

*The Very Best Games volume 1 contains Shareware titles. Shareware programs require separate payment to authors if found useful.

LOOK AT THESE PRICES!!!!

(Inclusive of VAT/delivery within the E.C., p&p £5 elsewhere)

TOP TITLES

D=3.5" ONLY C=CD ROM ONLY B=BOTH, CALL FOR CD PRICE

ACES OVER EUROPE	D	32.99	MEGARACE	C	29.99
ALONE IN THE DARK	B	32.99	MICROCOSM	C	34.99
ALONE IN THE DARK 2	D	34.99	MICRO MACHINES	D	23.99
AWARD WINNERS 2 (Cool, Elite+, Sens Soccer, JW Snkr)	D	26.99	MS CINEMANIA	C	38.99
B'NTH THE STEEL SKY	B	29.99	MS FINE ARTIST	D	34.99
BATTLE ISLE 2	C	35.99	MORTAL KOMBAT	D	23.99
BLOODNET	B	32.99	MYST	C	32.99
CANNON FODDER	D	26.99	PACIFIC STRIKE	D	34.99
CHAOS ENGINE	D	CALL	PREMIER MANAGER 2	D	26.99
CDM MAX DVERKILL	B	32.99	POLICE QUEST 4	B	29.99
DARK SUN,S. LANDS	B	32.99	QUEST FOR GLORY 4	B	29.99
D. OF TENTACLE	B	31.99	RAVENSLOFT	C	32.99
DELTA V	D	32.99	REBEL ASSAULT	C	34.99
DRACULA UNL'SHED	C	34.99	RETURN TO ZORK	B	32.99
DRAGON'S LAIR	C	34.99	RISE OF ROBOTS SVGA	B	34.99
DUNE/7TH GUEST bundle	C	34.99	SAM & MAX	B	31.99
ELDER SCROLLS	D	32.99	SCTERS MAG CAS	B	26.99
ELITE 2 (FRONTIER)	D	29.99	SHADOWCASTER	B	29.99
EVASIVE ACTION	D	26.99	SHERLOCK 3	C	34.99
EYE OF BEHOLDER 3	B	29.99	SHERLOCK LOST FILES	D	29.99
F14 FLT DEFENDER	D	32.99	SIM CITY 2000	D	29.99
GABRIEL KNIGHT	B	29.99	STAR TREK 25TH ANN	C	32.99
HANNA B'S W'KSP	D	34.99	STRIKE COMMANDER	B	34.99
INDY CAR RACING	D	32.99	SUBWARS 2050	D	32.99
INDY JONES FTL	B	24.99	X-WING	D	32.99
IRON HELIX	C	29.99	- BWING+IMP PURS PACK	D	29.99
JOURNEYMAN PROJ	C	29.99	TIE FIGHTER	B	32.99
KINGS QUEST 6	B	32.99	TFX	D	32.99
LEISURE SUIT LARRY 6	B	29.99	UFO	B	32.99
LINKS 386	D	32.99	ULTIMA 1+2	C	34.99
ANY 2 LINKS COURSES	D	34.99	ULTIMA 8	B	34.99
			WHO SHOT J ROCK	C	37.99

AMAZING VALUE -6 BIG HIT ORIGINALGAMES
only £22.99 each or £39.99 for 2 (3.5" or CD)

VOLUME 1 - F19 Stealth Fighter, Titus the Fox, Grand Prix Master, Satan, Chicago 90, Stargoose
VOLUME 2 - F15 Strike Eagle 2, The Blues Brothers, Hammer Boy, Hotshot, Highway Patrol 2, Eye of Horus
VOLUME 3 - Gunship, Crazy Cars 3 , Mega Phoenix, Airball, Archipelagos, Starray
VOLUME 4 - M1 Tank Platoon, F14 Tomcat, Battletech, Scrylis, Slots & Cards, Pentys
VOLUME 5 - Knights of the Sky, Ghostbusters 2, Battletech 2, Mondu's Fight Palace, Time Bandits, Flashy Cars
VOLUME 6 - Silent Service 2, 3D World Tennis, Graham Souness Soccer Manager, World Cricket, Maya, Stormlord (available June)
VOLUME 7 - Special Forces, Millemiglia, 3D World Boxing, Nebulus, Windsurf Willy, Blade Warrior (available June)
VOLUME 8 - Railroad Tycoon, World Cup FootballManager, International Tennis, Targhan, Netherworld, Big Game Fishing (available June)
VOLUME 9 - Super Tetris, Football Manger 3, International Athletics, Fruit Machine, Genghis Khan, Basket Play-Off
FLIGHT PACK SPECIAL - F15 Strike Eagle 2 (plus Desert Strike Scenarios) F14 Tomcat, Air Warrior.

MICROSOFT FLIGHT SIMULATOR SPECIALS
FLIGHT SIM V5 £32.99 TOOLKIT £32.99
SCENERY BUNDLE SPECIAL - NY, PARIS,SAN FR'ISCO £53.99
AIR TRAFF CONT/REAL WEATHER PILOT BUNDLE £32.99
FAST ACTION PACK £26.99 PRAXIM £26.99
2 ITEMS =10% EXTRA DISCOUNT

OTHER SPECIALS	MS ENCARTA -	£66.99 (CD)
	CHESSMASTER 4000	£19.99 (3.5")
	WORLD ATLAS 4 -	£19.99 (CD/3.5")

100s more titles available including business software at up to 50% off RRP (all inclusive)

Why pay more?????

EXCLUSIVE OFFER

£5 EXTRA DISCOUNT

off any title when purchased together with The Very Best Games Volume I

Credit Card Hotline

Ring 0724 271 281 (4 lines)

...or make your cheques/PO payable to:
MULTIMAX LTD, PO Box 28, Scunthorpe DN16 3UF

Credit Cards will only be debited when goods are dispatched.

MultiMax

WORKSHOP

AS usual, a massive thanks to everyone who has sent in a problem to Workshop – keep those letters and faxes coming. No matter what the size of your problem, we want to hear from you. We'll do our best to answer your queries on these pages.

As well as trying to resolve your problems we've also included some useful computing tips. If you have some advice that you would like to share with the rest of the world, write in and you could win a software package courtesy of Microsoft.

Send in problems or tips using the form provided – you can use additional paper if necessary, but please include the form as well.

Getting serious: Every month we politely remind you that we cannot reply personally by fax or post, and yet we still get letters seeking individual responses. Sorry, we really don't have the time. And please don't ring us with your problems either!

Before we get on with the show, we would like to point out that Wayne Williams is responsible for the Com *joke* on the opposite page. Anyway, on with this month's selection.

QUERY ❶
SVGA PROGRAMS

System:

I have a 386DX-40 with SVGA graphics card, Panasonic CD-Rom drive and SoundBlaster Pro. I use it for C programming, playing games and writing college reports.

Problem:

Over the past few years I have collected many reference books related to graphics programming. I would now like to delve deeper into the hardware of SVGA.

However, I cannot find any postal address to request information from. The chip on my card is by Cirrus Logic. Can you help?

May I take the opportunity to recommend any book by Steve Rimmer on the subject of graphics.

Matthew Saint – Bury

Solution:

Few VGA card manufacturers have UK bases, and even if they did, I am not sure that they would be that willing to give out information to personal callers.

A better route to take may be to buy a general book.

As a Steve Rimmer fan, I assume you have read his title called *Super VGA Graphics Programming*. Published by Windcrest Books, it also includes a disk.

Call Computer Manuals on 021-706 6000 for details.

Beyond recommending this book, we don't know what to suggest. Perhaps readers could get in touch if they have any advice.

QUERY ❷
NO LIFE!

System:

I own a 33MHz 486DX IBM PC compatible with 4Mb ram and a 120Mb hard disk. I use it for some work but mainly leisure.

Problem:

My PC's battery has run out, and the BIOS is asking for hard drive configuration which is unknown. I find it astounding that with £1,500 worth of hi-tech technology – bought 15 months ago – the whole lot relies on a little battery.

Could I have got a re-chargeable battery – re-charged automatically from the mains? Can something indicate when battery is about to go or should the reference manuals advise you to copy hard drive configurations for such a circumstance?

The company I bought the PC off, are no longer around.

L Wilson – Sheffield

Solution:

The easy way to avoid this situation is to take a note of the drive settings. If anyone is reading this and they don't know what they are – go and write them down now! The information is usually displayed when the PC boots-up.

Sometimes the settings are written down by the manufacturers on a sticker placed either at the rear of the PC or inside.

If you really are stuck – and you can't find out the settings from the manufacturers of the machine or the hard disk itself – get hold of a book which contains lists of hard disk types.

PGP Computers (0258 456046) sell one for less than a fiver.

Incidentally, a typical PC battery recharges itself when the PC is switched on, although they aren't particularly reliable.

A life of two or three years seems to be the norm.

QUERY ❸
LANDMARKS

System:

I have a 486DLC 40MHz machine with 4Mb ram, local bus graphics card – Cirrus Logic 24-bit with 1Mb on board – and a 245Mb Maxtor hard drive. I use it for university work and games.

Problem:

I built my system from scratch and I believe I have been given some false information about the actual speed of my motherboard or been given a faulty board.

My DLC-40 is a Cyrix-based motherboard with 1k of internal cache and 128k of external cache.

Before I bought the motherboard I was told it had a landmark speed of 130MHz and that a Intel 486DX-33 had a landmark speed of 111MHz with the 486SX-25 coming in at 85.7MHz. So I bought this motherboard as it was £60 cheaper than the DX-33 – £219 to be exact – but when I ran Nortons it gave me a processor rating of 65.7. With a 486 25MHz I believe this is not a significant change, am I right?

David White – Newcastle Upon Tyne

Solution:

You were told the motherboard had a landmark speed of 130MHz. What landmark? There isn't a standard way of comparing processor speeds on the PC – different manufacturers will quote different figures from different programs.

You have used Norton's System Information, which is probably the closest there is to a standard, although others will use PC Tools, Checkit or one of the many other benchmark programs.

Also bear in mind that not all of the programs exclusively measure processor power – some take in to account ram and hard disk speed and so on.

Not having used a PC with a Cyrix 486DLC processor, it would be unfair to comment on a speed comparison with the Intel 486DX equivalents, although we have heard several reports that the former are slower.

With a 1k internal cache rather than a 8k cache found in the Intel's, perhaps this shouldn't come as a surprise.

QUERY ❹
MAKE THE (UP)GRADE

System:

I own a Tiko PXC 420 (486SX-20MHz) with 4Mb ram, and 170Mb hard disk. I have an AOC 14in colour monitor and colour inkjet printer. I use it for work, Open University, games and general wordprocessing.

Problem:

I want to upgrade my processor chip – I have a spare processor socket for a coprocessor, will this take an overdrive chip? Is the best route to

Getting your COM1 and your COM2 mixed with com dancing? Got your leads in a tangle? Lost your dongle? This is the bit where we do our best to help you out

replace my existing chip?

If so, what size can I go to, or do I fit an overdrive chip in the coprocessor slot? What should this cost and do I have to change timing crystal or anything else? Also, what type of ram chips do I have in this model – or how do I find out?

How do I upgrade to 8Mb ram – I don't understand different specs of ram on sale.

N G Marshall – Basingstoke

Solution:

Wow – what a lot of questions. As you have 4Mb of memory, the chances are that you have four 1Mb SIMMs. You should be able to add four more, to bring you up to 8Mb, or replace them with 4Mb SIMMs to get 16Mb.

Why not ring one of the several memory specialists around? They'll be only too happy to give advice on what you need.

PC HOME has covered fitting memory quite a lot in the past – see the May and June issue from last year. We do have plans for a guide to upgrading in the future, including a photo guide.

Also of interest to you, and more immediate, is the news that next month we plan to cover upgrading your processor including an in-depth look at how to fit an Intel Overdrive chip, the speed benefits, compatibility, costs and so on.

QUERY 5
NO SCAN

System:

I have a 486DX-33 with 4Mb ram, VLB Cirrus Logic 5426 Video card, 245Mb Maxtor HD, SoundBlaster Pro sound card and Mitsumi double-speed CD-Rom drive. I use the system for wordprocessing, games and anything else really!

Problem:

I have just bought a second-hand scanner made by A4 Tech. The model is AS 8000PE.

The software provided with the hand scanner is called Image 72 – a painting program with a scanner driver written in.

There is no scanner driver that I can load into Config.sys or Autoexec.bat and therefore I cannot use any other program to scan with!

I load Image 72 from the Dos command line, scan something but when I try to save the scanned image my system locks. Even if I don't save the scanned image and then exit, the system freezes.

I can load any other picture or scanned image from my mate and save it again no problem. Both the scanner and interface card are in perfect working order as I have installed them in my mate's computer and everything works fine.

He's got a 486DX 33 but with Award BIOS, I've got AMI BIOS dated June '92.

I've tried all the possible jumper settings on the card and the two DMA settings within the software. I've also used a system disk so that nothing else loads, but all to no avail.

Have you got an address for the company A4 Tech? The handbooks and box don't mention any address.

I've also had a similar problem with Strike Eagle 3 but I got a fix disk from Microprose, it was something to do with the BIOS. Have you got any ideas?

Julian Gladwell – Salisbury

Solution:

Once again the *buy it second-hand, save a couple of quid* mentality falls down. Unless you're 100 per cent certain that the product will work with your system, buying second hand computer peripherals is just plain risky.

Who's to say that if you get into contact with A4 Tech, that they'd be prepared to help an unregistered owner?

As far as we are aware A4 Tech are the manufacturer of the card and not a direct supplier. They could well be based in the Far East – we certainly don't have their details on any of our databases. If anyone else has this model scanner or information on the company, perhaps they could write in and we'll pass on the information.

READER HELP

WITH regard to Query 1 in the April issue of *PC HOME*, I read with interest the readers problem with some software not running on his PC. I have found a similar problem with the odd DIY machine especially those using the faster DX2 processors. The reader does not state whether this is a DX2 so I am presuming it is.

The particular situation was using a Dos version of Reflection 4+ – a commercial terminal emulation software. The problem was corrected by dropping the speed of the processor to 25MHz – switching off turbo – and the software works perfectly. I hope this resolves the readers problem.

I am glad to hear you are taking over the top position. Keep up the good work with the magazine. I have been reading it now for 16 months and it is the best.

Please could you run an article on fax software as I believe this is coming more into the home environment especially with the advent of faster speed modems and the reducing telephone costs. I look forward to reading it when it appears.

Michael Cassidy – Reading

PCH: ***Thanks for your comments. I am not sure that slowing down the machine would solve the problem in this case, although it's worth a try. A feature on fax communications is planned for the near future.***

QUERY 6
PIGGY MESS

System:

I own a 386SX-16, with VGA graphics card, ST506 40Mb hard disk. Used for programming, some games and Windows.

Problem:

I want to upgrade my motherboard as the 386SX is getting to be a bind. Having looked in *PC HOME*, I found a reasonable price for a 486DX 33MHz.

I immediately ordered the board and waited eagerly for delivery. After about two hours and a dismantling session with my PC – to upgrade the ram – a horrible thought occurred to me! My expansion cards were horizontal and on new motherboards, the expansion cards are fitted vertically. I reluctantly rang back and cancelled the order.

The next day, I spoke to a friend, who is a computer technician about my problem. He explained that the new machines used what he called a *Piggy back board*. The board plugs into one of the motherboards' expansion slots and then provides horizontal expansion slots.

Could I find a place that sold these piggy back boards – I think not! I do not really want to upgrade my case unless I have to, as it is in perfect condition. Could you give me a contact number or address of someone who would be able to help me?

Alex Bland – Loughborough

Solution:

Firstly, why were you upgrading your ram when you are awaiting the delivery of a new motherboard? Strange.

It isn't *new* motherboards which take vertical expansion boards, this is the norm.

Your motherboard is exactly the same – it's the design of your case which is forcing you to mount the boards horizontally. You do need a piggy back board, although after ringing around a bit ourselves, we haven't found anyone who can supply one. Perhaps if someone is reading does know, they could write in.

QUERY ❼
BUDDING ARTIST

I own a Dell Dimension XP 466V computer, a Hewlett-Packard 500C printer and a Scanman Colour scanner complete with Logitech FotoTouch software. I also use CorelDRAW! v3.0.

Problem:

My granddaughter has the Noddy's Playtime software from The Jumping Bean Company.

Part of this program enables her to display a line drawing picture and by selecting colours from the colour line, she is able to point to an enclosed space and fill it in with the chosen colour.

What I would like to be able to do is, having scanned other line drawings into the machine, carry out the same function, preferably using the Paintbrush option from Windows 3.1 or CorelPaint.

The only way of doing it that I can see is to select each enclosed space, fill it in and then go on to do each space in turn. Apart from being extremely tedious and inaccurate, the picture can only be coloured in once.

D.Fenton – Mansfield

Solution:

You say that pictures can only be coloured once, but surely you have saved the original image? Selecting the colour then using the fill option on each section is the only way that the picture can be coloured in, unless you use a paintbrush tool.

Perhaps your best bet is to look at dedicated children's painting software, like Peter Pan from EA, or an animation package like Hanna-Barbera's Animation Workshop from Empire.

Alternatively, why not print out the line drawings and let your daughter colour them in with pens?

QUERY ❽
AUTO FAX?

System:

I own a 486DX2 PC with 8Mb ram, a double speed Mitsumi CD-Rom drive and SoundBlaster 16. I use it for games, DTP and general word-processing.

Problem:

I want to buy a fax/modem unit for my computer which can receive faxes without having to leave the whole PC unit switched on.

Is anything available or would it be more sensible to buy a normal office fax?

Faisal Atcha – Gloucester

Solution:

We don't know of any add-on fax card or unit which can control the PC, and that's effectively what you are asking for.

The AcerPAC 450 PC from Acer (0753 523024) does perform this function, although you probably don't want to buy a new computer for the task. The best bet in your case would be to buy a standalone office fax.

The AcerPAC 450PC includes a fax/modem which controls the PC

TIPS

Clean Windows

KEEPING the *Save settings on exit* function enabled in Windows can be annoying – if you've opened loads of windows and then quit, they'll all be open when you re-start.

A much better system is to disable the feature from the Options menu, and then when you do need to save the screen layout, hold down the Ctrl key and double-click in the top left-hand corner. – **JA Rhodes, Cardiff**

Illegal Dos

DOS prohibits the user from creating filenames with invalid characters including spaces. However, you can get round this by using control codes. Why would you want to do this?

Well it stops other people tampering with your files. For example in order to create a file called PC HOME.TXT, you can type Edit PC and then holding the Alt key, type 255 – the control character for space. Now type HOME.TXT and hit Return.

It is then impossible to delete the file from Dos or Windows without using the control character – a space won't work. You can use other codes, and you can also create directories in the same way.

Remember the code which you use, and bare in mind that if you print this tip, *PC HOME* readers will all know the trick! – **Chris Bard, Maidstone**

Ordered dirs

IF you are using MS-DOS 6 or later, you can force your files and directories displayed in order – such as alphabetical – when you type Dir. Edit your Autoexec.bat file and add the following line Set DIRCMD=/O.

Save the file and reboot and your files will always be sorted alphabetically, with directories displayed first. Other switches which work with the Dir command can also be used, so adding /P pauses the information at the end of each screen. Type Dir/? at the Dos prompt for a full list of switches. – **Dominik Chmielewski, London**

PCH: *This is not the first time that we have heard of this, although we know many users won't be aware how useful it is – it really does make reading directories a lot easier. For sharing your wisdom with the rest of the world, you win the Microsoft package of your choosing – Dinosaurs on CD-Rom.*

VGA into EGA

THIS came as a bit of a shock. CJ Thorne of Fleet in Hampshire wrote in to tell us that the Video 7 card referred to in last month's Workshop pages, can emulate five different adapters including CGA and EGA, although a variable frequency or analogue monitor is required.

He also supplied a page of information on the card which we have passed on to Mr Sempers who wrote in with the original problem. Thanks a lot.

Microsoft®

WRITE IN AND WIN!

EACH month you can win a software package courtesy of Microsoft.

To stand a chance of winning, just send us a tip which you think can help other readers. It can be software or hardware related, but no game hints please – send those to Andy Shaw for the Home & Dry section.

The reader who, in our opinion, has sent in the best tip, will win a package of their choice from this Microsoft selection:

MS-Dos 6.2
The latest version of the world's best-selling operating system

Money 3.0
Keep control of your finances with this brand new edition

Flight Simulator 5
The most realistic flight simulator available for your PC

Creative Writer
Fantastic edutainment for young desktop publishers

Dinosaurs CD-Rom
The closest you'll ever come to seeing this fascinating creatures

Fill in the form on the right and send it to the address shown. Please remember to indicate which package you would like to win, in the space provided.

DEAR *PC HOME*, I NEED YOUR HELP!!!!

Name:.....

Address:.....

.....

.....

Postcode.....Telephone:.....

FILL IN THIS SECTION ONLY IF YOU HAVE A PROBLEM:

Your system:.....

.....

.....

.....

Used for:.....

.....

.....

COMPLETE THIS SECTION:

Your problem/tip:.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

Top Tips
Do you have any tips that you would like to share? Send them in and you could win some software.

Do you have a suitable picture of yourself (preferably with your PC)? Why not send it in?

PRIZE (COMPLETE ONLY IF YOU HAVE SUPPLIED A TIP)

I would like to win: (tick one only)

☐ MS-DOS 6.2 ☐ Money 3.0 ☐ Flight Sim 5 ☐ Dinosaurs CD ☐ Creative Writer

Cut out this form or make a photocopy and send to:

Warren Chrismas, *PC HOME* Workshop, EuroPress Publications, Europa House, Adlington Park, Macclesfield SK10 4NP.

Alternatively fax it to 0625 879966. Please mark the document clearly for the attention of *PC HOME*. Feel free to use additional paper if necessary but include this form.

We regret that we cannot answer queries over the telephone, nor can we provide personal replies by letter or fax.

FIRSTCALL COMPUTER SYSTEMS

Tandon

Premier Authorised Dealers

Apple Macintosh Authorised Resellers

COMPAQ

NOVELL

SCO (Unix/Xenix)

olivetti

Tulip

FREE

COMPLETE WORKS FOR WINDOWS

- Database
- Word Processing
- Spreadsheet
- Charting
- Form Designer
- Form Filler

FIRSTCALL MultiMedia
FC486/33MHz, 256K Cache,
260Mb Hard Disk, Local Bus
3½" FDD, 4mb Ram 1Mb Vesa Local
Bus Video Card, 14" SVGA Low radiation
Colour Monitor, 2 serial and 1 Parallel port,
1 games port, MS DOS 6.2MS Windows 3.11
Mouse & Mat Dual speed multi session
CD ROM, Soundblaster card
(built in loud speakers + amplifier)

£1135.00 + VAT

CALL 0342 824944

London 081-680 0033 FAX: 0342 824411

Firstcall House, Lewes Road,

Forest Row, E. Sussex RH18 5AF

NO ONE CAN BEAT US ON PRICE & SUPPORT. CALL US TODAY AND TAKE THE FIRSTCALL CHALLENGE!

Premier Mail Order

Please send cheque / PO (made out to Premier Mail Order) / Access / Visa No. and expiry date to:

Dept PCH19, 10 Tinkler Side, Basildon, Essex SS14 1LE Tel: 0268-271172 Fax: 0268-271173

Telephone orders: Mon-Fri 9am-7pm and Sat & Sun 10am-4pm. We Are Open 364 Days A Year

P&P and VAT is included for all UK orders. Please add £2 P&P for Europe and £3.50 for Rest of the World. Next day delivery service available £4 per item (E&OE)

Some titles may not be released at the time of going to press

11th Hour - 7th Guest 2 ..... CD RDM 49.99
1942 Pacific Air War 27.99
7 Cities of Gold 26.99
7th Guest/Dune ..... CD ROM 29.99
A320 Airbus (Edition Europa) 30.49
A320 Airbus (USA) 30.49
A320 Approach Trainer 19.99
Aces of Pacific GD VGA 25.99
Aces of the Deep 27.99
Aces Over Europe 26.99
Aces Over Korea 26.99
Addiction ..... 3.5" or CD ROM 22.99
Aegis Guardian of the Fleet ..... CD ROM 39.99
Air Bucks 1-2 ..... 22.99
Air Combat Aces 21.99
Alien Breed 19.99
Alone in the Dark 2 ..... 26.99
Ambermoon 26.99
Armaeth 19.99
ATP 27.99
ATP + East & West USA Scenery ..... CD ROM 56.99
ATP Great Britain Scenery Disk 24.99
ATP Hawaiian Odyssey Scenery Disk 16.99
ATP Japan Scenery Disk 16.99
ATP Scenery Disk 11 Detroit/Lake Huron 13.99
ATP Scenery Disk 12 New York/Montreal/Halifax 13.99
ATP Scenery Disk 9 Chicago/St Louis/Cincinnati 13.99
ATP Western European Scenery Disk 16.99
A Train 12.99
Award Winners 2 ..... 22.99
Battles of Time ..... CD ROM 19.99
Battle Isle 2 ..... 26.99
Battle Isle 2 ..... CD ROM 29.99
Battletech 2 ..... CD ROM 12.99
Beauty & the Beast 20.99
Beneath A Steel Sky 22.99
Beneath A Steel Sky ..... CD ROM 29.99
Bioforge 29.99
Bloodnet ..... 3.5"/CD ROM 27.99
Body Blows 19.99
Breach II 19.99
Bridge Champion – Omar Sharifs 22.99
Bridge Olympiad 27.99
Burning Rubber 19.99
B-Wing 13.99
Campaign 2 ..... 24.99
Captive 2 ..... 22.99
Castles 2 ..... 23.99
Championship Manager '94 Season Disk 7.99
Championship Manager 93 (Dos or Windows) 19.99
Championship Manager Definitive Edition 19.99
Championship Manager End of Season 11.99
Championship Manager Italia 19.99
Chaos Engine 27.99
Chessmaster 4000 (Windows) 22.99
Civilisation 26.99
Civilisation (Windows) 27.99
Cohort 2 ..... 19.99
Colonels Bequest 12.99
Combat Classics 2 (Compilation) 22.99
Commanche Maximum Overkill ..... CD ROM 29.99
Commanche Mission Disk 1 or 2 ..... 15.99
Conquered Kingdoms 27.99
Conspiracy ..... CD ROM 32.99
Corridor 7 ..... 13.99
Cosmic Spacehead 17.99
Creation 37.99
Cruise for a Corpse ..... CD ROM 12.99
Cyberace 27.99
Dangerous Streets 17.99
Darkmere 25.99
Day of the Tentacle 27.99
Day of the Tentacle ..... CD ROM 29.99
Diggers ..... 3.5"/CD ROM 25.99
Dizzy Collection 19.99
Doom 25.99
Dragonsphere ..... CD ROM 27.99
Dreamweb 26.99
Dune 2 ..... 23.99
Dungeon Master 2 ..... 26.99
Elder Scrolls (The Arena) 27.99
Elite 2 (Frontier) 26.99
Elite 2 (Frontier) ..... CD RDM 27.99

Evasive Action 22.99
Excellent Games - (Compilation) 26.99
Eye of the Beholder ..... 3.5"/CD ROM 12.99
F1 ..... 19.99
F14 Fleet Defender 27.99
F15 Strike Eagle 2 ..... CD ROM 12.99
F19 Stealthfighter ..... CD ROM 12.99
F19 Stealth Fighter/Titus the Fox ..... CD ROM 19.99
Falcon 3.0 ..... 28.99
Falcon 3.0 F/18A 16.99
Falcon 3.0 Mig29 Deadly Adversary 16.99
FA Premier League Football 19.99
Fantastic Worlds 26.99
Fields Of Glory 27.99
Fine Art (Windows) 29.99
Flight Sim 5 – Air Traffic Controller 17.99
Flight Sim 5 – Fast Action PAQ 19.99
Flight Sim 5 – Flight Adventure 825 ..... 12.99
Flight Sim 5 – Flight Sim Shop 19.99
Flight Sim 5 – Italy Scenery 16.99
Flight Sim 5 – Lunar Command 17.99
Flight Sim 5 – New York Scenery Disk 13.99
Flight Sim 5 – Paris Scenery Disk 13.99
Flight Sim 5 – Praxim 19.99
Flight Sim 5 – Real Weather Pilot 17.99
Flight Sim 5 – San Francisco 19.99
Flight Sim 5 – Washington 19.99
Flight Sim 5 – West USA Scenery Disk 29.99
Flight Sim Toolkit ..... 3.5"/CD ROM 29.99
Flight Simulator 5 ..... 29.99
Forgotten Castle 27.99
Formula One Grand Prix 2 ..... 27.99
Front Page Sports Football Pro 26.99
Gabriel Knight 26.99
Gabriel Knight ..... CD ROM 27.99
Genesia 22.99
Goal 22.99
Golden 7 - (Compilation) ..... CD ROM 29.99
Graham Gooch's World Class Cricket 19.99
Grandest Fleet 27.99
Great Naval Battles (Super Ships) 12.99
Gunship 2000 VGA 26.99
Gunship 2000 (Scenery disk) 17.99
Hanna Barberra Cartoon Animator 29.99
Hannibal 19.99
Harpoon I 12.99
Harpoon II 27.99
Heimdall 2 ..... 3.5/CD ROM 26.99
Hill Street Blues ..... CD ROM 12.99
Hired Guns 27.99
History Line (1914-1918) 26.99
History Line (1914-1918) ..... CD ROM 29.99
Indy Car Racing 27.99
Indy Fate of Atlantis Adventure 24.99
Indy Jones Fate of Atlantis ..... CO ROM 27.99
In Extremis 24.99
Innocent Until Caught 25.99
International Manager World Cup Edition 19.99
Ishar 2 ..... 20.99
Jack Nicklaus unlimmited Golf + Course Design 12.99
Jack the Ripper ..... 3.5 or CD ROM 27.99
Jones in the Fast Lane ..... CD ROM 25.99
Jonny Quest 19.99
Jurassic Park 22.99
Kingmaker 25.99
Kings Quest 3 or 4 ..... 12.99
Kings Quest 6 ..... 3.5"/CD ROM 29.99
Knights of the Sky 12.99
Lamborghini 19.99
Lands of Lore ..... CD ROM 27.99
Laser Squad (Enhanced) ..... CD ROM 12.99
Leisure Suit Larry 1 ..... CD ROM 12.99
Leisure Suit Larry 1, 2 or 3 ..... 12.99
Leisure Suit Larry 1 to 4 ..... CO ROM 29.99
Leisure Suit Larry 6 ..... 27.99
Lemmings 2 ..... CD ROM 20.99
Lemmings + Oh No More ..... 3.5"/CO ROM 27.99
Lemmings 2 (The Tribes) 25.99
Links Collectors CD ..... CD ROM 29.99
Link Worlds ..... 3.5" or CD ROM 22.99
Links 386 Pro Super VGA 29.99
Links Banff Springs (SVGA) 16.99
Links Bayhill (VGA) 15.99

Links Castle Pines (SVGA) 16.99
Links Collectors CD ..... CD ROM 29.99
Links Fantasy Course (SVGA) 16.99
Links Firestone (SVGA) 16.99
Links Innesbrook (SVGA) 16.99
Links Mauna Kea (SVGA) 16.99
Links Pebble Beach (SVGA) 16.00
Links Pinehurst (SVGA) 16.99
Links The Belfry (SVGA) 16.99
Links The Challenge of Golf ..... 3.5"/CD ROM 12.99
Lords of Midnight ..... 3.5"/CD ROM 22.99
Lords of Power - (Compilation) 29.99
Lost Files of Sherlock Holmes ..... CD ROM 32.99
Lotus 22.99
M1 Tank Platoon ..... CD ROM 12.99
Mad Dog McCree ..... CD ROM 29.99
Man United Premier League Champions 19.99
Mega Race ..... CD ROM 26.99
Merchant Prince 27.99
Microcosm ..... CD ROM 35.99
Microsoft Golf Banff Springs Course Disk 14.99
Microsoft Golf Pinehurst Course Disk 14.99
Microsoft Golf (Windows) 16.99
Micro Machines 19.99
Microprose F1 Grand Prix 27.99
Microsoft Multimedia Beethoven ..... CD ROM 29.99
Microsoft Musical Instruments ..... CD ROM 29.99
Monkey Island 2 VGA 23.99
Monopoly 22.99
Moonstone 20.99
Morph 19.99
Mortal Kombat 22.99
Myst ..... CO ROM 34.99
NFL 94 ..... 19.99
NFL Pro League Football ..... 3.5"/CO ROM 26.99
NFL Coaches Club Football 25.99
NHL Hockey 27.99
Nick Faldo's Championship Golf 19.99
Nicky 2 ..... 19.99
Nippon Safes 22.99
Oscar ..... 3.5" or CD ROM 19.99
Outpost 27.99
Outpost ..... CD ROM 31.99
Pacific Strike 29.99
Pacific Strike Speech Accessory Pack 13.99
Perfect General 2 ..... 27.99
Perfect General Trilogy 27.99
PGA Tour Golf 2 ..... 27.99
Pinball Dreams 25.99
Pinball Dreams ..... CD ROM 25.99
Pinball Dreams 2 Data Disk 13.99
Pinball Dreams Deluxe ..... CD ROM 25.99
Pinball Fantasies 24.99
Pinball Magic 7.99
Pirates ..... CO ROM 12.99
Police Quest 1 ..... CD ROM 12.99
Police Quest 1 or 2 ..... 12.99
Populous & Promised Lands 10.99
Power Tactics 22.99
Premier Manager 2 ..... 22.99
Prince Of Persia 1 ..... 10.99
Prince Of Persia II 25.99
Print Shop Deluxe 34.99
Privateer 29.99
Privateer Righteous Fire 13.99
Privateer Speech Accessory Pack 13.99
Quantum Gate 29.99
Quarterpole (Horseracing) 19.99
Quest for Glory 2 ..... 13.99
Railroad Tycoon ..... CD ROM 13.99
Railroad Tycoon Deluxe 26.99
Ravenloff 27.99
Rebel Assault ..... CD ROM 29.99
Red Crystal 27.99
Return to Zork 28.99
Reunion 27.99
Rise of the Dragon 27.99
Rise of the Robots (VGA) 27.99
Rise of the Robots (SVGA) 29.99
Rise of the Robots ..... CD ROM 34.99
Ryder Cup 19.99
Ryder Cup ..... CD ROM 26.99
Sabre Team ..... 3.5" or CD ROM 13.99

Sam & Max Hit the Road 27.99
Sam & Max Hit the Road ..... CD ROM 29.99
Scrabble 20.99
Secret of Monkey Island 1 ..... 12.99
Secret of Monkey Island 2 ..... 21.99
Sensible Soccer 21.99
Settlers 26.99
Shadowworlds ..... CD ROM 12.99
Sherlock Holmes 2 ..... CD ROM 32.99
Sid & Als Incredible Toons 26.99
Silent Service 2 ..... CD ROM 13.99
Silverball 19.99
Simon the Sorcerer 26.99
Sim City 2000 ..... 26.99
Sim City Deluxe 22.99
Sim City/Lemmings 19.99
Sim City/Populous 19.99
Sim Life 27.99
Soccer Kid 19.99
Space Hulk 24.99
Space Hulk ..... CD ROM 32.99
Space Legends 22.99
Space Quest 1 ..... 3.5"/CD ROM 12.99
Space Quest Quad Pack 28.99
Spaceship Warlock ..... CD ROM 29.99
Speedball 2 ..... 8.99
Spellcasting Triple Pack ..... CD ROM 27.99
Sports Masters 22.99
SSN-21 Sea Wolf 29.99
Star 2 ..... 26.99
Star Reach 26.99
Star Trek 2 ..... 26.99
Star Trek 25th Anniversary 24.99
Star Trek 25th Anniversary ..... CD ROM 32.99
Star Trek Starfleet Academy 29.99
Star Trek The Next Generation ..... CD ROM 27.99
Streetfighter 2 ..... 19.99
Strike Commander ..... CD ROM 32.99
Strike Commander 26.99
Strike Commander Speech Pack 13.99
Strike Commander Tactical Ops 1 ..... 13.99
Strike Squad 26.99
Stone Keep 27.99
Stunt Island 29.99
S.U.B. 22.99
Sub War 2050 ..... 27.99
Supaplex 22.99
Syndicate Data Disk 13.99
Syndicate Plus ..... CD ROM 32.99
T.F.X. ..... CD ROM 29.99
T.F.X 27.99
Tactical Manager English or Italian or Scottish 22.99
Take A Break Pinball (Windows) 22.99
Tetris/7 Colours 16.99
The Blue & The Grey 26.99
The Greatest 24.99
The Greatest ..... CD ROM 27.99
The Journeyman Project ..... CD ROM 26.99
The Lawnmower Man ..... CD ROM 32.99
Theme Park 29.99
The Shadow of Yserius 25.99
Tie Fighter 27.99
Tony La Russa Baseball 2 ..... CD ROM 29.99
Tornado 26.99
Tornado ..... CD ROM 29.99
Tornado Operation Desert Storm 13.99
Traps N Treasures 19.99
Trivial Pursuit 10.99
Turning Points 22.99
UFO Enemy Unknown ..... 3.5"/CD ROM 27.99
Ultima 6 ..... 12.99
Ultima 7 Blackgate/Serpant Isle/Silver Seed ..CD ROM 29.99
Ultima 7 Complete ..... CD ROM 29.99
Ultima 8 – Pagan 29.99
Ultima 8 – Pagan ..... CD ROM 34.99
Ultima 8 (Speech accessory pack) 13.99
Ultima VII (The Black Gate) 26.99
Ultima VII (The Serpent Isle) 25.99
Ultima VII (Silver Seed) 13.99
Ultima Trilogy 2 ..... 26.49
Ultima Underworld 1 ..... 26.99
Ultima Underworld 2 ..... 26.99
Ultima Underworld 1 & 2 ..... CD ROM 29.99
Ultima Underworld & Wing Commander 2...CD ROM 29.99

Ultimate Pinball Quest 19.99
UMS Compilation ..... 3.5" or CD ROM 27.99
Unnecessary Roughness 26.99
Veil of Darkness 24.99
Walls of Rome ..... CD ROM 12.99
Who Shot Johnny Rock ..... CD ROM 29.99
Wing Commander 14.99
Wing Commander II + Speech Pack 26.99
Wing Commander I Special Ops 1&2 ..... 16.99
Wing Commander II Special Ops 1 ..... 9.99
Wings of Glory 29.99
Winter Olympics 25.99
Winter Olympics ..... CO ROM 29.99
Wizard 26.99
Wizardry 5/6/7 Compilation 27.99
Wolfenstein 3D 13.99
World Cup USA 94 ..... 27.99
Xith Hour - 7th Guest 2 ..... CD ROM 49.99
Xmas Lemmings 13.99
X Wing 27.99
X Wing Imperial Pursuit Mission Disk 13.99

JOYSTICKS & ACCESSORIES

3 Button Serial Mouse 9.99
Action Replay Pro 59.99
CH Flitestick 29.99
CH Flitestick Pro 59.99
Disk Box (100 Capacity) 7.99
Disk Box (80 Capacity) 6.99
Disk Box (50 Capacity) 5.99
Disk Box (40 Capacity) 4.99
Disk Box (10 Capacity) 1.99
Gravis Analog Joystick 34.99
Gravis Dual Eliminator PC Game Port 24.99
Gravis PC Gamepad 19.99
Gravis Pro Flight Joystick 39.99
Gravis Ultrasound 16 bit card 169.99
Manhattan Coated Glass 14" Monitor Filter 14.99
Manhattan Glass 14" Monitor Filter 12.99
Manhattan Nylon 14" Monitor Filter 9.99
Mousemat 1.99
Quickjoy MS SV202 ..... 11.99
Quickjoy Topstar SV227 ..... 29.99
Saitek Megagrip III MX230 Analog 12.99
Saitek Megastick III MX130 Digital 8.99
Soundblaster V2.0 Deluxe 64.99
Soundblaster Pro Delux 99.99
Soundblaster Pro Plus 139.99
Soundblaster Pro 16 ASP 199.99
Soundblaster 16 SCSI – 2 ASP 239.99
Soundblaster 16 Multi CD 174.99
Soundblaster Multi CD ASP 209.99
Soundblaster 16 ..... 164.99
Soundblaster 16 Basic 139.99
Suncom Analog Edge 16.99
Suncom Analog Extra 19.99
Suncom Command Control Pad 13.99
Suncom Flitemax 27.99
Suncom FX2000 (Left & Right Handed) 19.99
Suncom Gameport 2000 Dual Port Card 16.99
Suncom G-Force Yoke 49.99

SPECIAL OFFERS

Chessmaster 3000 ..... 14.99
Chessmaster 3000 ..... CD ROM 22.99
F15 Strike Eagle 3 ..... 16.99
Football Manager 3 ..... 8.99
Harrier Jump Jet 16.99
Jack Nicklaus Courses (Pebble Beach etc) 7.99
Jack Nicklaus Courses (St Andrews etc) 7.99
Kings Quest 5 ..... 12.99
Laser Squad 9.99
Mavis Beacon 2.0 (DOS ONLY) 16.99
Microprose Golf (David Leadbetters) 16.99
Paperboy 2 ..... 9.99
Shadowlords 9.99
Trolls 9.99
Vikings 9.99
Wing Commander (OEM) 5.99
World Class Rugby (Five Nations) 9.99
Zool 12.99

EDUCATIONAL

A Christmas Carol (8+) 13.99
ADI English (11-12) Or (12-13) Or (13-14) 17.99
ADI French (11-12) Or (12-13) Or (13-14) 17.99
ADI GCSE Maths or English or French 22.99
ADI Maths (11-12) Or (12-13) Or (13-14) 17.99
Better Maths (12-16 years) 11.99
Better Spelling (8+) 11.99
Biology (12-16 years) 13.99
Chemistry (12-16 years) 13.99
Cave Maze (8-13 Years) 10.99
Fraction Goblins (8-13 Years) 10.99
Fun School (2-6) or (6-8) or (8+) 8.99
Fun School (4-5) or (5-7) or (7+) 16.99
Fun School Merlins Maths 17.99
Fun School Paint & Create 17.99
Fun School Spelling Fair 17.99
Junior Typist 13.99
Magic Maths (4-8 years) 13.99
Maths Mania (8-12 years) 13.99
Maths Dragons (5-12 Years) 10.99
Merlins Maths (5-13) 17.99
Mickey's 123's (2-5) 16.99
Mickey's ABCs (2-5) 16.99
Mickey's Jigsaw Puzzles (5+) 16.99
Mickey's Colours & Shapes (2-5) 16.99
Mickey's Memory Challenge (5+) 16.99
Noddys Big Adventure (3-7 years) 19.99
Noddys Big Adventure (Windows) (3-7 years) 22.99
Noddys Playtime (3-7 years) 16.99
Physics (12-16 years) 13.99
Picture Fractions (7-10 Years) 10.99
Playschool (3-8 years) 13.99
Reasoning With Trolls (5-12 years) 10.99
Robin Hood (8+) 13.99
The Three Bears (5-10 years) 13.99
The Wizard of OZ (6+) 13.99
Tidy The House (5-9 Years) 10.99
Wind in the Willows (6+) 13.99

CYRIX UPGRADE CHIPS

386DX 16MHz to 486DX 32MHz 219.99
386DX 20MHz to 486DX 40MHz 259.99
386DX 25MHz to 486DX 50MHz 289.99
386SX 20MHz to 486SX 40MHz 199.99
386SX 25MHz to 486SX 50MHz 219.99

3.5 BLANK DISKS

	TDK/VERBATIM (BOXED IN TENS)		PRECISION (BOXED IN TENS)		UNBRANDED	
	LOW	HIGH	LOW	HIGH	LOW	HIGH
10	7.99	9.99	6.49	7.99	5.99	6.99
20	14.50	19.50	11.99	15.50	10.99	13.99
50	35.00	47.50	26.00	37.50	23.99	32.99
100	65.00	95.00	49.99	72.99	44.99	62.99
200	125.00	190.00	94.99	141.99	83.99	121.99
500	300.00	470.00	219.99	350.00	199.99	287.50
1000	580.00	930.00	419.99	680.00	369.99	580.00

RECYCLED DS/DD LOW

10x ..... 4.50 20x ..... 8.50 30x ..... 12.00 40x 15.00
50x ..... 17.50 60x ..... 21.00 70x ..... 24.50 80x 28.00
90x ..... 31.50 100x 35.00

SHAREWARE FOR LEISURE

Shareware guru Jim Hoggarth dips his toe into the ocean of free software and discovers two more classics

Top Draw

MEGA CD-ROM

THE act of putting digital paint to an electronic canvas can achieve superb results, but the whole thing falls flat on its backside when the resolution of the output medium does not match the original image.

Painting programs are best suited to producing artwork which stays within the confines of the PC – such as backdrops for an arcade game, presentation graphics or animations.

When creating output designed for printing, painted bitmap images score very badly. Unless the dot-per-inch resolution is very carefully matched at design time, bitmaps will always suffer a degradation in quality when transferred to paper.

The problem is that image downscaling always results in information loss. Scaling up does not necessarily lose image detail, but then nor can it add information which was never in the original image. The answer is vector-based images.

Drawing is a totally different principle from painting, at least in the computerised sense. With a drawing package you lay down individual objects which could be a line, shape or text – even a bitmap generated by a paint program!

The primary advantage is that scaling of a point or matrix of points does not result in information degradation. Another bonus is that drawn objects do not blend in with the general background as a painted line would, but can be easily reselected, moved, scaled or even removed entirely.

From the top drawer

THE most powerful example to date in the shareware field is Top Draw. This is a recently introduced Windows package with a host of features, which is even more impressive when its version 1 status is considered.

As is customary with a drawing package, creations are built up in a layer-by-layer fashion. In Top Draw's case the number of layers is theoretically unlimited. Presumably only memory or hard disk space imposes a maximum here.

You may start by filling a backdrop on one layer with a single solid colour – or perhaps a colour gradient, as Top Draw supports three styles of gradient fill: Linear, circular and radial. It's better to see the effect than try to describe it, but as an example the radial style can produce a kind of shaded 3-D cone effect.

On further drawing layers you get to work with the other tools. The program provides a good number of standard drawing tools including single and polylines, circles, ellipses, bezier curves, various circle segments such as arcs and True Type text support. It does not as yet allow for curving or distortion of text, but this is apparently in the design stage.

Other notable items are over 100 predefined shapes, various hatching and pattern styles – called *textures* – which can replace the solid and gradient object fill methods and some unique and appealing drawing tool styles such as calligraphic and rotating pens. Lines include dashed and dotted styles, with optional arrow heads for technical work, and you may even design a custom pen type.

Top Draw is particularly hot on its object selection and editing features. The basic set of features are to be found: Select a single object with a mouse click and drag, duplicate, cut or paste with ease.

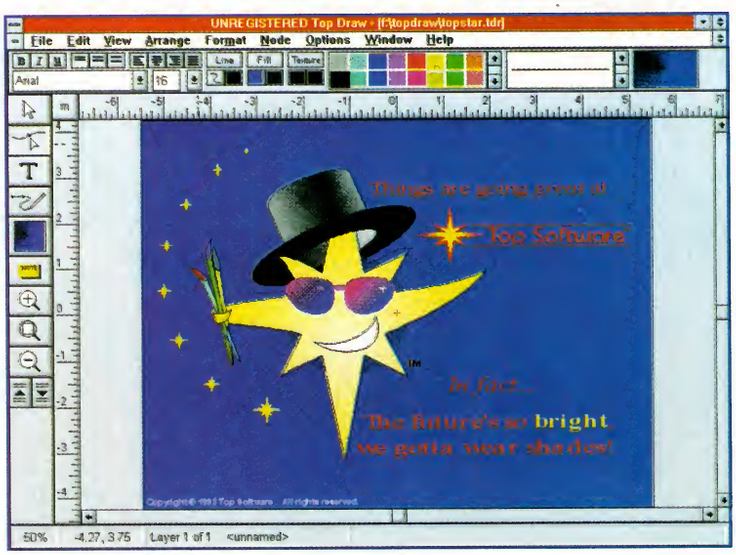
Multiple selection of objects into one common group is just as easily accomplished. Object alignment is supported in a basic fashion and objects may be simply moved to the front, back or relative to other objects.

The most impressive feature is the ability to convert an object between polyline and bezier curve editing format.

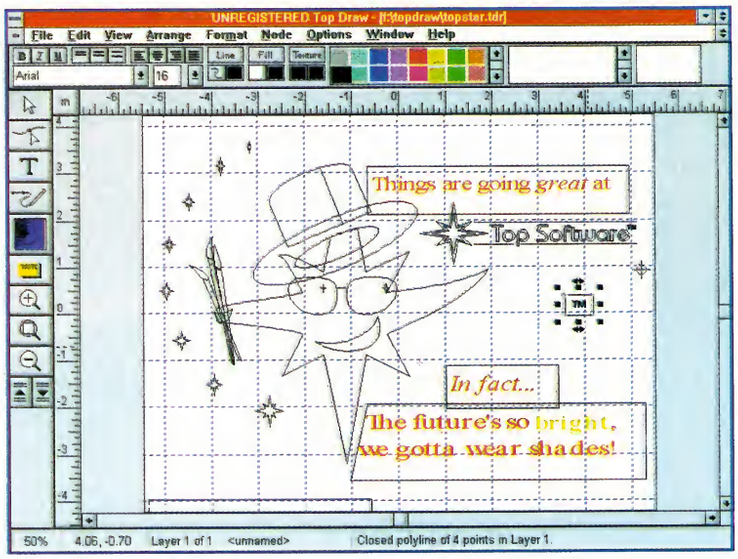
This means you can draw a basic structure, such as a rectangle, then distort just one edge simply by selecting a node, defining various curve attributes and dragging the newly created node handles.

I could go on for another page describing some of the program's features, but time and space has run out. Suffice it to say that Top Draw has multi-level undo, full online help, import/export in its own proprietary format or as Windows Metafiles, bitmap import through PCX and BMP images and plenty of other helpful gizmos like custom rulers.

All you need is Windows 3.1, a 386 processor and the patience to learn this powerful tool. I can thoroughly recommend a detailed examination.



One of the sample drawings supplied, which comprises very few individual objects



If your creation becomes too complex, you can always switch to wire-frame mode

Product	**Top Draw 1.0b**
Supplier	**Nildram Software or most disk libraries**
Telephone	**0442 891331**
Registration	**£39.95, £57.58 with manual**
Eval copy	**Nildram direct and other libraries**
PCH Verdict	★★★★★☆

SHAREWARE FOR LEISURE

You don't get points for kills, you get money

With the cash you can buy extra weapons

Oh look, I've got a rather nice missile launcher

Raptor

MEGA CD-ROM

JUST when I thought it safe to rest my minor arcadorals – those muscles required to simultaneously wrench a joystick sideways and hit the Alt key, for those without A-level Biology – along comes Raptor. Yup, Apogee have done it again.

It's another stunning arcade action game courtesy of the boys in Texas, and a sure sign of the way their products are heading. It's similar in many respects to the likes of Stellar Defence and Apogee's own Major Stryker. As the field of play scrolls downwards, wave upon wave of enemy ships appear ready to do battle.

Your task – as you would expect by now – is to blast the swines into eternity. It's a case of *if it moves shoot it.* In fact, even if it doesn't move, there's a good chance that loosing off a few rounds will do some good.

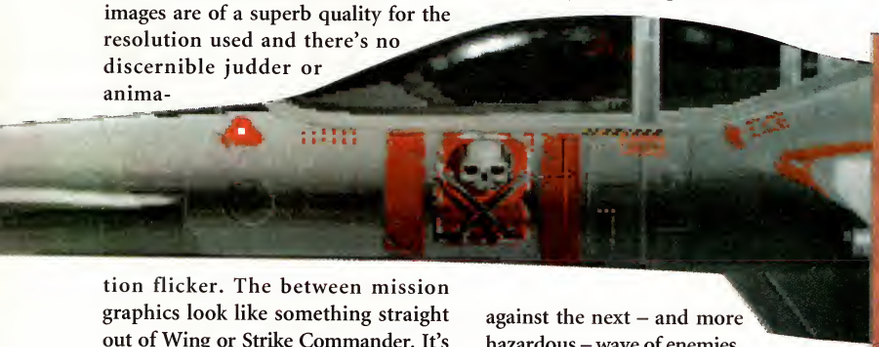
The similarities end when you study the graphic detail and smoothness of sprite animation. This has to be one of best shareware games to date. The images are of a superb quality for the resolution used and there's no discernible judder or animation flicker. The between mission graphics look like something straight out of Wing or Strike Commander. It's all rather splendid.

The action starts with the player creation screen, although this is of minor importance. You may select one of four pictures and log in with a name and call sign. From here you advance on to the mode selection screen. Four modes are offered from Training through Rookie, Veteran and Elite. The training mission takes you gently through the first four waves of alien attack, with barely a whimper.

If you can't get through these without suffering major damage you should give up while still barely ahead: The Rookie mode gets a tinge more difficult and exciting, but Veteran and Elite are darned near impossible!

Each mode gets progressively more dangerous as the enemy squadrons become larger and more frequent, your weapons become distinctly more feeble in comparison and the rotters do ever more damage to you with each shot they successfully drive home.

Before actually flying a mission, and between each successfully completed foray, you are allowed to visit the supply ship which just happens to be beside the hanger. Initially you have little spare cash and buying extra shields is futile. Later in the game each visit here is essential. If not to top up your shields after a none too brilliant bit of ducking and diving, at least to buy extra weaponry or more powerful defences against the next – and more hazardous – wave of enemies.



Game on

ONCE out on the playing field the game's all about speed of reaction and a strong trigger button finger. Each enemy hit loses power from the shield, but other than in Elite Mode a moment of relaxation boosts the shields back up a few notches. That said, there's little time to yourself apart from between the major attack waves.

One word of warning. It is essential that you keep your shields topped up by a regular trip to the supply stores, and to choose the correct weapons during the mission.

Once the shields are low each hit against you is painfully expensive, usually costing one special weapon. A shields low warning will often mean impending death – within seconds, in fact. It's all too easy to go from *bristling with armour* to *nude* in next to no time.

Of course, special bonuses are found throughout each mission. These may be monetary, extra weapons or a dose of power for the shields. However, these are distinctly similar to buses – when you need one...

As with all Apogee's offerings, the shareware evaluation copy is only a taster. The full package comprises three episodes, or missions, whereas the shareware version only offers the first of these. The registered version also promises more *cinematics* – to use their phrase, harder to thrash end of level bosses and a range of more powerful weapons at your disposal. Presumably these are essential for navigating later and usually more difficult levels.

If you've been jealous of shoot-'em-ups on other systems, like Swiv on the Amiga, this is exactly what you've been waiting for. 386 owners with a minimum of 2Mb ram – 4Mb recommended – will be fools to miss it.

Product	Raptor
Supplier	Transend
Telephone	0274 622228
Registration	£29.95
Eval copy	Transend direct and other libraries
PCH Verdict	★★★★★★

Things can get rather hectic in the heat of a continuous onslaught

CD-Xpress, The CD-ROM Company

CD-XPRESS

FREE! Catalogue

CD-ROM SOFTWARE

EDUCATION / KIDS

3D Dinasaur Adventure	£49
'A' Level Maths	£245
Barney Bear Goes To School	£19
Barney Bear Goes To Space	£19
Dinasaur Discovery	£29
GCSE Maths	£145
Gus Goes To Cybertown	£33
Language Discovery	£29
Lenny's Music Toons	£33
PC Globe - Maps 'N' Facts	£39
Peter Rabbit	£19
Playing with Langs. French	£49
Putt-Putt Goes to the Moon	£33
Tortoise & The Hare	£33

ENTERTAINMENT

7th Guest	£45
Adventures of Willy Beamish	£25
Battle Chess MPC	£35
Chessmaster 3000	£35
Day of the Tentacle	£35
Dune	£35
Gabriel Knight	£39
Just Grandma & Me	£33
Kings Quest V	£25
Kings Quest VI	£35
Kyrandia	£35
Loom	£25
Lord of the Rings	£39
Lost Treasures Of Infocom	£39
Lost Treasures Of Infocom II	£39
Mad Dog McCree	£35
Myst	£39
Rebel Assault	£35
Return to Zork	£29
Starwars Chess	£35
Strike Commander / Tact mission	£39
Who Shot Johnny Rock ?	£37

SHAREWARE

Libris Britannia (New version)	£39
C User Group Source	£29
CICA Windows CDROM	£15
LGX (Linux/GNU/X-Windows)	£49
OS/2 Archive	£25
Significant Windows	£9
Shareware Explorer (4 disc set)	£49
Shareware Trio (3 disc set)	£25
Simtel-20 CDROM	£15
Tech Arsenal	£29
X11R5/GNU CDROM	£35

REFERENCE

3D-Body	£49
Aircraft Encyclopedia	£29
All Music Guide	£39
Anglo-Saxons MM Learning Guide	£49
Art of Ancient Egypt	£49
Complete Dickens	£49
Compton's Interactive Ency. (1994)	£99
Darwin Complete Texts	£49
Desktop Bookshop	£45
Electricity & Magnatism	£49
Encyclopedia Groliers MPC	£79
France at its Best	£19
Global Explorer	£79
Great Literature	£55
Greatest Books Ever Written	£49
Guided Tour of Multimedia	£26
Guinness Disc of Records MPC	£29
Hong Kong at its Best	£19
Jets & Props	£29
Languages of the World	£39
Learn Fly Fishing	£25
Learn to Speak French	£65
Let's Go USA	£19
Library of The Future	£39
Living Body - An Atlas	£195
Microsoft Encarta 1994	£99
Middle East Diary	£39
National Geographic Mammals	£39
New York at its Best	£19
North American Indians	£49
Oxford English Dictionary	£495
Prescription Drugs	£45
Shakespeare Study Guide	£35
Street Atlas USA	£89
Total History (3 disc set)	£99
UFO	£39
Undersea Adventure	£49
World Atlas V4	£25
World Fact Book	£25

ART & DTP

Clipart Heaven	£17
Clipart Extravaganza (with book)	£45
CorelDraw v3	£119
CorelDraw v4	£289
Corel Photo-CD (60 titles)	£39
Corel Gallery (10,000 clipart)	£49
Fantazia Fonts (2000 fonts)	£35
Dr. Clipart	£12
Font Pro 1	£25
Font Pro 2	£25
Kodak PhotoCD	£19
Publisher Platinum	£25

A Huge range of titles in stock. New titles arriving weekly. Prices & availability subject to change without notice, please check before placing orders. Prices do not include VAT. Most orders are shipped the same day by First Class Recorded Delivery.

Delivery Charges (Per Order)
UK Mainland : CD-ROM Software £3. Hardware £8
Scotland & Ireland : CD-ROM Software £3. Hardware £12
Europe : CD-ROM Software £6. Hardware (please call)

Fax your Orders on 081-554 2768

CALL NOW ON 081-518 4151

Please send me your FREE Catalogue

Name (Mr./Mrs./Ms./Dr.) _____

Address _____

_____

_____

Post Code _____

Please tick to receive details of Adult CD-ROM Titles, (you must be over 21). ❑

CD-Xpress
2 Beal Road, Ilford, Essex IG1 4QF

POWER OF THE HACKER

Book & Disk

Have you ever looked through the pages of a magazine searching for a cheat for your latest game? Ever wondered how these cheats are made? – "Power of the Hacker" gives you the knowledge and the tools to write you own cheats.

The "Power of the Hacker" package enables you to cheat at computer games of every type. It is not just a list of cheats for various games as you would find in the tips section of a magazine, but a complete guide to how computer users can make their own cheats for most games that are available for the PC. These are secrets that have been closely guarded by the master hackers, information that has never been released before.

There is even a way to freeze the program, a way that does not require you to take your machine apart and install expensive "freezer" hardware. This is just one of the methods that will be revealed to you when you buy "Power of the Hacker".

The book is a complete step-by-step guide for users of all levels of experience and gives worked-through examples of all the different methods used by the experts. On the disk are all the programs you need to get started, along with a full set of example files.

Please send me "The Power of the Hacker" for just £15.00 + £1.50 p&p.

Cheques made payable to"Klystron"

Send to "Klystron", PO Box 45, Basildon, Essex SS14 2NA.

Name _____ 3.5"disk ❑ 5.25" disk ❑

Delivery address _____

_____

_____

_____ Post Code: _____

PCH-1

2 New Bulletin Boards Supporting

VGA PLANETS

The unique interactive PC gaming experience, played off line. You and your computer will be pitted against 10 other human opponents in a battle for survival that will test you to the limits and beyond. All moves made off line. Average telephone time per turn only 2 minutes.
11 different races to choose from with individual advantages....10 tech levels to research for each of 4 equipment choices.... Online messages between players....Mouse support and VGA graphics....500 planets to explore and colonise....Dozens of starship hull designs with your own choice of weapons....10 human opponents to compete against. This is a continuing game not a pregenerated computer scenario.

SOLAR FLARE BBS

081-744-2829 (London Area) Online from 10th May 1994

BLACK HOLE BBS

0272-651077 (Bristol Area) Now on-line

Solar Flare and Black Hole Bulletin Boards configure games for beginners and experts. Varying scenarios and different opponents in each game. Freeware game enhancements regularly available for downloading. Conference (discussion) areas full of hints and tips on strategy. Games run daily and twice weekly. Remember, this is the cheapest way to play by modem. A twice weekly game need take only 8 minutes of off peak phone time, per week! Phone the Bulletin Board nearest your home for maximum economy. Cheerful assistance to newcomers always available.

VGA Planets shareware, (limited technology levels) version may be downloaded free from Solar Flare or Black Hole BBS.
Registered version priced £10, obtainable from PAW-PBM, 12 Binford Close, Whipton, Exeter, EX1 3JZ. Telephone 0392-498022.
BBS subscription, £10 per quarter or £35 per year.

WRITE HOME

Warren Chrismas sifts through this month's bulging postbag to respond to your comment and opinion

CD RIGHT?

I HAVE a collection of over 500 floppy disks and I am very interested in getting the data on to a CD-Rom.

I know a number of companies offer a disk to CD-Rom service, but those I have contacted have asked that I copy all the files to a hard disk, and send them the drive.

This is not something I am too keen on, and besides, my hard disk isn't big enough! Is there an easier way to get a CD-Rom written? – **K. Patel, Ipswich**

PCH: *Yes there is – buy a CD-Rom writer. The bad news is, of course, a setup will cost you at least £2,500. Hardly practical if you just want to write one disc.*

As you say, the companies who supply a CD-Rom mastering service require you to send them a hard disk. Some will accept a data cartridge, so if you can borrow (or hire) a tape streamer or similar, this could be the answer.

I assume that when you say that you have 500 disks, that these are not commercial programs. If they are, may I politely refer you to this month's cover feature.

EAGLE DARES

I FEEL I must write to you as I have been recently incensed by a PC company who advertise in your magazine.

My son obtained his first PC last Christmas and obviously has become an avid enthusiast – he regularly looks to your magazine to find suitable games.

After saving his pocket money he asked me to order him a game from Eagle PC on February 21. This company seem to find it impossible to supply the order. Their lack of consideration is unbelievable – their telephones are either constantly engaged or unanswered.

When I do eventually get a response, they repeatedly make excuses about difficulties with suppliers, changing suppliers and so on.

My son's hard earned cash went through their banking account on February 18 and we still have not received any goods.

My exasperation is so now that I am told if I require a refund, I must write to them. Several telephone calls later and money spent on postage, I wonder if I will eventually get the money back.

It seems a shame that a reputable magazine like yourselves has to extend hospitality to such a firm. – **Mrs H D Mason, Tamworth**

PCH: *It appears that Eagle PC are having great difficulties is fulfilling orders – we have had a number of complaints.*

PC HOME *has not accepted advertising from this company since our February issue, when we first became aware of problems.*

Any reader who is not happy with the service from Eagle PC, should ring the Trading Standards Office on 081-363 4052. Ask for Mr. Tiller.

Rest assured that we will not be accepting advertising from this company, until they can prove to us that they can fulfil orders and reach basic expectations.

CHART CONFUSION

I HAVE just sat through the ELSPA/Gallup charts on teletext and noticed that there are only two PC titles in the top 10 CD chart – the rest being for the Commodore CD32 and Sega Mega CD.

Considering that PCs, and in particular multimedia PCs, are the talk of the industry, how can this be? – **James Banks, Brighton**

LETTER OF THE MONTH

PCH: *We too were a little perplexed by the charts, so we rang a few software developers. Between them, they seem to have come up with some reasonable explanations.*

It seems that PC games – on disk or CD-Rom – sell well over long periods, whereas the console titles sell in vast numbers over a much shorter space of time. One software company estimated that as much as 80 per cent stocks of a console game can be sold in the first month, with small sales from then on.

The best analogy, they say, is with the music charts, where you have singles which race into the charts and are gone within a couple of months, and albums which can stick around, selling for years.

It's also worth remembering that less titles are available for the cheaper CD-based systems, so if a half-decent title is released, it's pretty obvious that owners of that particularly machine type are going to rush out and buy it.

Then, of course, there's the argument that many PC CD-Rom games are rubbish but, hey, we're not getting into that.

GET 'EM OFF

I HAVE been subscribing to *PC HOME* for nearly a year now and am about to renew for another 25 issues.

I now have an extensive collection of 16 MegaDisks, 11 Subscribers Specials and a Mega CD-Rom. Initially I was attracted by the software on the cover disks but now find that the actual volume of software does itself pose at least one disadvantage.

Many of the programs are tested and then removed from the hard disk to save space – even with DoubleSpace. I notice that other readers have complained about software files that bury themselves into the hard disks and change .INI files.

I would like to make a suggestion although I realise that it won't go down very well with your marketing division.

Instead of trying to cram over 2Mb on to one MegaDisk I suggest that you supply every program in a form that can be run directly from the floppy disk without having to unzip or install. After evaluation we could make up our own minds about running from the hard disk/floppy disk/none. – **Nigel Ford, Cannock**

PCH: *Your suggestion goes a little against the grain, as most readers seem to want more quality software, not less. We appreciate that installing lots of programs can be a pain, especially if you decide you don't want to leave them on your hard disk.*

You will find that with the Mega CD-Rom we have included a function which automatically deletes any demos which you may have installed from the disc. See the disk pages for more details.

CONSPIRACY?

READING your feature on the ELSPA ratings I was a little dismayed at finding it to be so clichéd. Frankly I've found the media attention on this subject to be over the top and tedious.

In my opinion the only reason the government are trying to legislate in this area is because they need a smoke screen to hide the things they really can't do anything about like rising violent crime and one of the worst recessions in economic history. It

makes them look good to be doing something about trivial matters because they can then pretend that they are at least doing something.

Magazines like yours, as well as TV and the press, simply put ideas into people's heads and make youngsters more aware of what to look out for. The best way of handling underground crime like this is to keep it underground, and let the police deal with those who are repeatedly breaking the law. I agree that in the home there is no one but parents who are responsible for the development of their offspring.

Persistent media attention does nothing to help and rarely informs any more than people know already. And including pictures of ladies in bikinis and yet more shots of Mortal Kombat and Doom just serves to titillate rather than educate. – **Martin Dray, Aberdeen**

PCH: *The article you refer to was not written from a political perspective, aiming to be an informative guide to the problems out there at the moment. We weren't trying to lay blame or force our opinions, but to keep people aware of the issues so that they can watch out for it in their own environment.*

On the question of how to combat the problem I think we are agreed that the policing of adults is best left to the law, while youngsters need a certain amount of guidance from a role model.

I also understand your concern about the use of imagery in the feature, though in our defence we tried to keep it relatively tame. However, raw text can be very dull to read while putting in pictures of an irrelevant subject would have been ludicrous.

FAUVE RAVE

JUST a quick line to say thanks for the Fauve Matisse demo given away with the May issue. It really is a quite brilliant program, and I intend buying the full version in the near future.

Why you haven't reviewed the full, colour package? If I had know about it, I would have bought it months ago. – **James Macc, London**

PCH: *Thanks, for your kind comments. We were very pleased to be able to offer this program. As you have noticed, it is indeed a fine package.*

There are a number of reasons that we have not featured this program before now. The main one is that it was only launched a couple of months ago – it is genuinely new.

We could have reviewed it in one of the last two issues, but let's face it, most readers would have cried foul. So now the promotion has been done, we're more than happy to give it the once over – you'll find a review on page 58.

And just in case some of you still think that we're biased – we got an out-of-house graphics expert to look at it. As you will see, he, like many others in the industry, is very impressed.

BLASTER BOOB

I AM pleased to see that your Education Centre section continues, and carries a review of our Math Blaster – In Search of Spot in the April issue.

Having read the piece, however, I must point out a basic factual inaccuracy which unfairly impacts on the overall impression given.

You have gone to great pains graphically to bill this product as CD-Rom only and the introduction implies that the second product reviewed, Mutanoid Maths Challenge, has broader appeal, being available on floppy disk.

Math Blaster – In Search of Spot is also available on PC floppy disk and as a Windows version. – **Peter Binns, Ablac Learning Works**

MINIMUM SPEC

I HAVE just finished reading my first *PC HOME* (March issue) and am suitably impressed. The truth is, I only bought it for the cover CD-Rom and it was a struggle to hand over nearly five beer tokens for it but what the hell.

It seems that your magazine is one of the few that actually has a sense of humour – Lance Concannon's CD-Rom installation guide for instance.

Just one suggestion though. It would be helpful – especially for the less well endowed of us with only 386/25s and a single speed drive – if you could give more specific requirements of your coverdisk software: *486 essential* or *double speed drive required* for example. Optic Nerve may feature *dazzling graphics and amazing stereo sound* but not on my PC it didn't.

No big deal really, just thought I'd mention it. – **A. Jones, Tamworth**

PCH: *Unfortunately, if we were to put all the details of all the software on the Mega CD-Rom in the magazine it would fill it up. We only have room to give you a minimum amount of information in this way.*

However, we are increasingly trying to include this information in as many places as possible, both in the menu and in readme files.

Thanks for the suggestions, we're pleased you like the magazine. And if anyone else can suggest ways in which the coverdisks could be improved or made easier to use, please write in. PCH

CONTACT POINT

WHEN you write to *PC HOME* please use the following list to address your queries to the most appropriate department:

GENERAL LETTERS AND TECHNICAL PROBLEMS

Send your general letters on any subject under the sun to Warren Chrismas, Editor, *PC HOME*, Europa House, Adlington Park, Macclesfield, SK10 4NP.

If you have a technical problem you can't solve or a good tip to share, use the form in our Workshop section of Home Help and send it to *PC HOME* Workshop at the same address.

NEWS LINE

If you have a hot breaking story that you feel *PC HOME* should be aware of, contact Wayne Williams on 0625 878888 during office hours.

GAME SOLUTIONS

Got a complete game solution? Know some good hints or cheats? Write to Andy Shaw, Games Editor at the usual *PC HOME* address.

SHAREWARE SUBMISSIONS

If you have a dynamic new product that you feel could benefit our MegaDisk, write to Adrian Worrall at the usual *PC HOME* address.

FAULTY DISKS/CD-ROMS

If you receive a faulty cover disk it will be replaced free of charge. Contact PC Wise, Dowlais Top Business Park, Dowlais, Merthyr Tydfil, Mid Glamorgan CF48 2YY.

If you damage a disk yourself, include a cheque/postal order for £1.85 (per HD 3.5in disk), £2 (CD) and send it to the same address. If the disk was damaged in transit, return it to Europress Direct, Freepost, Ellesmere Port L65 3EB.

SOFTWARE PROBLEMS

If you have any problems running any of the software on our MegaDisks or CD-Rom, contact Adrian Worrall on our helpline on 0625 858084.

SUBSCRIPTIONS AND BACK ISSUES

Contact Europress Direct on 051-357 1275

Unfortunately, due to our workload we cannot accept phone calls except where stated above and we cannot reply to letters individually.

MEGABYTES

COMPUTER SYSTEMS

22 Central Road, Worcester Park, Surrey KT4-8HZ Tel: 081-335-4224 Fax: 081-715-0914

Soundblaster Pro £60.00

8 Bit Stereo Card
Panasonic CD-Rom I/F
Value Pack with free software

Soundblaster Pro 16 £75.00

Value Pack
16 Bit Stereo Sound Card
Panasonic CD-Rom I/F

Soundblaster Pro 16 ASP £169.00

16 Bit Stereo Sound Card
Advanced Signal Processor Chip
Multi CD-Rom I/F

CD-ROM Software

MS Encarta '94	£68.00
Multimedia Beethoven	£42.00
MS Art Gallery	£39.00
7th Guest	£20.00
Return to Zork	£20.00
Iron Helix	£20.00
Tornado	£18.00
Megarace	£20.00
Shareware titles from	£10.00

We also supply Motherboards, Hard drives, Monitors, Cases, Memory etc. i.e.
250Mb IDE £165 356Mb IDE £199

Panasonic 562 CD-Rom £130.00

Double speed 300Kbs
Kodak Multi-Session
Complete with Cables and Drivers

Panasonic 562 CD-Rom + Soundblaster Pro £189.00

Complete with cables and drivers.
Includes Free sampler CD

Panasonic 562 CD-Rom + Soundblaster Pro 16 £205.00

Complete with cables and drivers.
Includes Free sampler CD

All prices exclude VAT. Shop Opening Hours 9am - 6pm Mon-Sat. Personal Callers Welcome
Overnight Delivery on Hardware £6.95.

LABELMAN

COMPUTER LABELS

94 New Ifton, St. Martins, Oswestry, Shropshire, SY11 3AJ

NEW RANGES OF DIE CUT LASER LABELS
Compatible with all leading labelling programs

LASER LABELS - *over 40 types from 1 to 65 labels per sheet*
FANFOLD LABELS - *inc. 3.5" disk labels (70 x 49mm 1 across)*
CUSTOM MADE LABELS - *all types (Plain or Printed)*
LABELLING SOFTWARE - *to suit all budgets*

BESPOKE COMPUTERS - *If you need a computer that's better than the rest - call for a very competitive quote!!*

BEST PRICES
Call or write for free price list **(0691) 773367**

C.V. Write Away

Earnings from Career Management

Software for Business

Superb C.V.s with Ideal letters to get that job - complete system to start full agency service

- DOS and Windows programs ● Detailed Marketing Plans
- Windows - Tabbed Client Folders/Scalable Print Reviews
- Advertising Materials ● Automated job application system
- Copyright free client questionnaires and instruction leaflets
- The only British Software for jobs throughout Europe
- Immediate business start ● Fees per client £50 - £100

Complete Marketing Pack from only £49 (ex vat inc p&p)
Phone or write for a Free Information Pack

UK Software

HSC Ltd, (Dept T2), PO Box 200
Shrewsbury SY1 1ZZ ☎ 0938 570428

MICROLAND BULLETIN BOARD SYSTEM

0891 990 505 To Download

0483 725 905 To View

Shareware to download at V32bis, V32, V22bis, V22, V23, & HST etc. 8 data bits, no parity.

INTERNET CONNECTED

Microland is now connected to the world's largest network. We now provide full global mail, news, software archive, and interactive services. Don't miss out, get connected and explore the world of Internet. Download from the biggest archives in the world. Services subject to availability.

Why wait for your software when you can download now direct from your computer. Microland offers high speed connections and most files are compressed to minimise the cost. Check it out on 0483 725 905 at normal call charges. So much shareware you are spoilt for choice.

Calls to 0891 990 505 charged at 39p per minute cheap rate, 49p per minute all other times.
Trevan Designs Ltd. PO Box 13, Aldershot, Hants. GU12 6YX.

BOX CLEVER...

WHY PAY MORE WHEN THE BEST COSTS LESS!

RACING BOXFORM £24.95... "I was impressed by all the programs. The overall winner though has to be RACING BOXFORM... well worth backing"... Practical PC ".. has come through independent tests with flying colours"... ODDS ON. "Remarkable Results" ... CSUG. And from a customer
"I have tried every racing program on the market and RACING BOXFORM is the easiest to use, as good as any and better than most."

RACING TOOL KIT £49.95... Racing Boxform PLUS programs to keep your own records PLUS produce form and time ratings PLUS work out almost any bet PLUS betting analysis indicating the best races for winner finding PLUS a book "HOW TO WIN AT RACING".

FOOTBALL BOXFORM £24.95... Written by a mathematician who was for years a member of Littlewoods permutation advisory service. He can't guarantee you'll become a millionaire (if he could he'd be one himself!) but he can GREATLY IMPROVE YOUR CHANCES OF WINNING ON THE POOLS OR THE FIXED ODDS. Covers league and non-league. Includes FREE PROGRAM for Australian pools.

FOOTBALL TOOL KIT £49.95... Football Boxform PLUS details and checking of nearly 800 treble chance entries PLUS "as thorough a statistical analysis on coupon numbers as the punter can hope for" PLUS Dividend Forecaster... PLUS fixed odds calculator.

PLEASE MAKE CHEQUES OR POSTAL ORDERS PAYABLE TO BOXFORM

BOXFORM (PCH MAY) 65 Allans Meadow, Neston, South Wirral, L64 9SQ. Tel: 051 336 2668

SHAREWARE PROGRAMS FROM ONLY 50p PER PROGRAM

SPECIAL OFFER

Claim a **FREE** copy of the Shareware version of Apogee's **RAPTOR** when you order £12.00 or over of Shareware programs. Please make sure you ask for your copy when you order by quoting Z80-989. This offer is valid until 30/06/94.

CREDIT CARD HOTLINE 0235 526433

VISA Access

50p PROGRAMS

3D Star Trek B11-191
Amiga Emulator B11-219
Ancients 1: The Deathwatch A10-029
Animal Quest A10-172
Animated Memory Game A10-148
Ant Run A10-444
Apple II Emulator B11-215
Avaricious A10-035
Beat The Bomb A10-430
Blazon (for Windows) B11-217
Captured By Pirates A10-218
Commodore 64 Software Emulator B11-216
Crusher Castle 2 A10-455
Dinohunt B11-157
Dinosaurcerer A10-112
Dr Who Trivia B11-178
Duke Nukem A10-045
Duke Nukem Edit B11-139
Duke Nukem Maps A10-046
Elf Land A10-012
Funny Face II A10-145
Gold Hunt B11-189
Greens (needs Windows) A10-233
Kaleidoscope Screen Saver B11-229
Kid's Bible Quiz B11-159
Lamers A10-063
IQ Challenge B11-143
Match Maker B11-160
Miramar Jet Flight Simulator B11-173
Paganitzu A10-199
Power Chess A10-187
Reaping The Dungeon A10-442
Rescue Rover A10-054
Rooms Of The Abyss A10-460
School Mom A10-164
Shooting Gallery B11-166
Sparky's Maths Adventure A10-001
Sports Team Management B11-195
Star Mines II B11-161
Stock Analyst B11-198
Super 3D Tic-Tac-Toe A10-439
Toybox II B11-174
Turoid B11-162
VGA Battleships A10-027
VGA Mahjongg A10-194
Wolfenstein Utilities A10-390
Xmas Lemmings A10-034
Xmas Lemmings 1993 B11-127
Zentris A10-023
ZZT B11-193

£1.00 PROGRAMS

Adventure Maths E20-041
Adventure Writer F21-106
Animated Maths F21-033
Astro 22 E20-149
Baron Baldric E20-018
Batfish F21-039
Bert's African Animals F21-073
Bert's Christmas F21-087
Bert's Dinosaurs F21-088
Bert's Prehistoric Animals F21-074
Bert's Whales & Dolphins F21-089
Bio Menace E20-049
Blaster Master F21-036
C Tutorial F21-099
C++ Tutorial F21-101
Castle Of The Winds F21-008
Catacomb Abyss E20-028
Christian Jokes III F21-068
Commander Keen – Aliens Ate My Babysitter E20-047
Commander Keen – Goodbye Galaxy E20-043
Electro Man F21-117
Hexxagon F21-047
House Of No Doors F21-006
Hugo III E20-014
Last Half Of Darkness E20-009
Lost In Space E20-128
Mahjongg For Windows F21-122
Maths Challenge F21-118
Maths Rescue E20-036
Mcafee Anti-Virus E20-099
Megatron VGA E20-015
Noteworthy F21-077
Noughts & Crosses Quiz For Windows F21-112
Overkill E20-010
Pandemonium F21-029
Phantom Screen Saver E20-103
Pianoman F21-064
PKZIP, PKUNZIP, & ZIP2EXE F21-107
Save Our Pizzas E20-110
Sinclair ZX Spectrum Emulator F21-133
Sir Addalot's Maths E20-126
Star Watch F21-113
Storymaker E20-145
Talking Numbers F21-071
Talking Time Tutor F21-072
Treasure Hunt Maths F21-026
Trek-Uk E20-139
Wolfenstein 3D E20-012
Wordle E20-143
Zor E20-150

£1.50 PROGRAMS

Able Table K30-024
Amazon Demo K30-008
Animated Words K30-006
Avagio Lite K30-029
Billy The Kid K30-052
Bridge for Windows K30-069
Cooper Graphics PCX Files K30-023
Crystal Dream K30-012
Dare To Dream (needs Windows) K30-009
Day 2 Day Companion K30-062
Dmorf K30-027
Doom Cheats & Utilities K30-059
Epic Pinball K30-020
Gamebuilder Lite K30-051
Gate World K30-005
Goggle K30-021
Heartlight K30-063
Indiana Jones & Temple Of Doom K30-003
Ken's Labyrinth K30-002
Kubulux K30-028
Lance Stone K30-004
Monster Bash K30-001
Mount St Helen Simulation K30-007
Movie Database K30-022
Night Sky K30-055
Ouija for Windows K30-083
Page Cheque Book K30-058
Page Financial Controller K30-034
PC-Pools Expert Results Predictor K30-049
Sky Map (needs Windows) K30-016
Smart 4 K30-017
Three Point Basketball K30-074
Wall Street Raider K30-053
Win Jammer K30-026
Win Spell K30-031
Windows Hangman K30-060
Xargon 1 – Beyond Reality K30-054

£2.00 PROGRAMS

Amnesia Megademo R40-029
CD Toons 1992 R40-003
Cheque Mate Plus R40-022
Church PCX R40-021
Complete C Dev Environment R40-006
Fast Menu Gold V6.1 R40-008
Ford Simulator 3 R40-001
Gobliiins Demo R40-024
God of Thunder R40-027
Halloween Harry R40-005
Legend Of Myra R40-019
Jim Cooper PCX Clip Art R40-010
Super Craps R40-002
The Jungly Kitchen R40-030
Topdraw For Windows R40-009
Zone 66 R40-004

OTHER PROGRAMS

Bard's Quest I S50-012	£2.50
Blake Stone - Aliens of Gold S50-001	£2.50
Brother's Keeper T60-004	£3.00
Doom! U70-001	£4.00
Doom! – Registered version	£34.00
Duke Nukem II S50-002	£2.50
Galaxy Trek S50-014	£2.50
Microscope for the PC S50-003	£2.50
Raptor U70-003	£4.00
Sound Files for Windows 3.1 S50-004	£2.50
Thor S50-015	£2.50
Tommy CAD Draw S50-017	£2.50

Wider selection in our Catalogue (Please send 60p for your disk copy).
Please add £1 postage & package for all orders (£3 Europe, £5 Rest of World).
All programs supplied on 3.5" HD disks (other sizes available at extra cost).
Most programs require EGA/VGA Monitor and Hard Disk.
Registered Software also available – please ask for prices.
MINIMUM ORDER of £6
Shareware requires a separate payment to the author, if found useful.

EMPEROR SOFTWARE
38 Peachcroft Road, Abingdon, Oxon OX14 2NA
Tel 0235 526433

EASY ESTIMATES, INVOICES & MARKETING

ESTIMATION v7.2 FOR WINDOWS

"Ideal for any company who regularly issues Estimates"
PC News Weekly

Aimed at the small to medium size business. Requires IBM PC or compatible, Microsoft Windows, 4Mb Ram (8Mb recommended)

Special Offer - £70. Money back (less £5 handling) if not delighted

MS-ACCESS HEADACHES?

Write to us for quick relief - at a price that won't cause a relapse!

Selective Software, Dept PCH,
169 Dalkeith Road, Edinburgh EH16 5BY

Minster Software

TELEPHONE: (0482) 492213 **FAX: (0482) 493204**

For All The Latest Games
Please Send For Our
Catalogue

Minster Software, Unit 4, Princes Court,
Princes Avenue, Hull, East Yorkshire HU5 3QA

SAVE £££'s ON PC REPAIRS

LEARN AT HOME TO BE AN EXPERT ON PC REPAIR

Earn extra cash too! Turn an interest into a well-paid profession. Take an easy to follow home-study course in PC Repair through ICS. Covers the Computer from basic power supplies through to major upgrades, preparing you for your own repair business or for DIY repairs. ICS has over 100 years experience in home-study courses and is the largest Distance Training organisation in the world. You learn at your own pace, when and where you want under the guidance of expert tutors from the field of Computer Repair and Maintenance.

Find out how we can help you. Post or phone TODAY for FREE INFORMATION – without obligation.

FOR FREE INFORMATION
PHONE 041-221 7373 NOW!
or POST THE COUPON
BELOW TODAY!

Please send me my FREE INFORMATION PACK on the ICS PC Repair Course.

MR/MRS/MISS: _____
ADDRESS: _____
_____
_____ P.Code _____

ICS
International Correspondence Schools, Dept. CC064,
312/314 High Street, Sutton, Surrey SM1 1PR.
Tel: 041 221 7373 (24 hrs.) Fax 041 221 8151

Reach the top with LCL Self-Tuition Courses

NATIONAL CURRICULUM*

GCSE Language courses that speak NEW "Invaluable revision aids" PC HOME.

Totally Comprehensive Courses (each is a compilation of 24 programs with a book and manual).
Of excellent quality (e.g. *"Excellent value for money, easy and fun to use"* PC HOME).

MICRO FRENCH (Beginners – GCSE) — New! Computer Talks

Complete course of spoken and written French of 24 programs. It includes real speech on disk – so for example, in one program you see a large, cute cartoon Frenchman who speaks to you with his mouth moving as he talks. Includes optional Sound Blaster music. No extras required.

24-Program course includes:

- Pronunciation
- Colours
- Articles
- er verbs
- Wordsearch in French
- ir verbs
- Time
- Learning by pictures
- re verbs
- Signs found in France
- oir verbs
- Plurals
- Oral exam
- 'Tour de France' adventure game
- Commands
- Adjectives
- Future tense
- Perfect tense
- Newspaper
- Direct object pronouns
- Role play
- Imperfect tense
- Listening
- Opposites

MICRO SPANISH (Beginners – GCSE & Business) — New! Computer Talks

24 programs • Interactive Real speech • Graphics adventure game • Talking cartoon • Soundblaster music • Business letter generator etc.

MICRO GERMAN (Beginners – GCSE & Business) — New! Computer Talks

24 programs • Interactive Real speech • Graphics adventure game • Business letter generator etc. • Sound Blaster music

MICRO ENGLISH (8 years – GCSE) — New! Computer Talks — NEW UPDATED VERSION

24 programs • Spelling (by speak-and-spell & by pictures) • Punctuation • Grammar • Literature • Sound Blaster music etc.

MICRO MATHS (11yrs – GCSE) — "Excellent" Ed. Comp.

Helps you pass your GCSE and features optional Sound Blaster Music.

24-Program course includes:

- Percentages & Fractions
- Averages and histograms
- Ratio and proportion
- Number
- Mensuration
- Polygon properties
- Simple algebraic equations
- Simplification in algebra
- Simple and compound interest
- Solution of triangles
- Profit and loss
- Similar trinagles
- Geometry of the circle
- Advanced statistics
- Applications of Pythagoras theorem
- Trigonometry
- Factorisation of Algebraic equations
- Graphs
- Simultaneous equations
- Indices in Algebra
- Indices in Arithmetic
- Vectors
- Matrices
- Probability

MICRO SCIENCE (Physics, Chemistry & Biology, 8yrs - GCSE) — GHI Software choice

24 programs e.g. Tuition • Practical Experiments • Learning by Pictures • Adventure game etc.

PRIMARY MATHS COURSE (3-12 Years)

24 programs e.g. Tables • Add • Subtract • Divide •Multiply (Long & Short) • Fractions etc.

It's fun & it really works

MEGA MATHS (A level course)

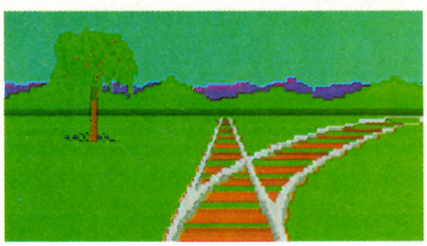
24 programs e.g. Calculus • Algebra • Geometry• Full-screen graphs etc.

£5 OFF TOTAL FOR 2 COURSES, £10 OFF FOR 3, £17 OFF FOR 4
(*All appropriate LCL Courses are National Curriculum compatible & run on all PCs no extras required.)

£24.99 per course. Cheques or P.O. payable to "LCL."
No need to phone around we are always in stock. Orders/free poster - catalogue requests to LCL (DEPT PCH), THAMES HOUSE, 73 BLANDY ROAD, HENLEY-ON-THAMES, OXON RG9 1QB

VISA **Phone 0491 579345 & it will be sent within 24 hours** Access

Have you ever wanted to be a train? Well now you can with TrainEngineer!



TrainEngineer costs £39.99 and is available for either DOS, Windows or Mac. If you already own 'Design Your own Railroad', Train Engineer can import your layouts.

With TrainEngineer you can create your own world filled with scenery, lakes, buildings, tunnels. Then hop in the cab for a 3D journey around the track, but watch out for the snow fall.You can even devise your own shipping timetable. Just £39.99 inc. P&P, ACCESS/VISA/Delta welcome.

Available from The October Company 0440 730121
50 Lion Meadow, Steeple Bumpstead, Haverhill, Suffolk CB9 7BY

Access

RED DRAGON SHAREWARE
3 Oaklea Court, Rhyl, Clwyd, LL18 4NP
Tel 0745 338094

VISA

Free catalogue on request * Same day dispatch on orders placed before 12am *Free advice on all computer matters *5.25 + 3.5 discs @ £2 * Payment by cheque or credit card (Telephone orders accepted)
Thousands of disks available for IBM, and IBM Compatible computers. Shareware is not free please register if you find the program useful SPECIAL OFFER PACKS OF 7 High Density 3.5" IBM DISKS @ £16.00
These packs as described below contain on average 28 normal disks placed on to 7 3.5" high density disks. This represents an excellent saving to people with HD drives. VGA screen also needed.
(ALL 4 PACKS + FREE MOUSE MAT FOR ONLY £42 (over 100 disks placed on 28 HD drives)

VGA GAMES HD PACK
30 VGA Games placed on 7HD Disks for only £16. Normally these would cost approx £50 if you bought individually and the titles include:
Zone 66, Lost in Space, Bio Menace, Save Our Pizzas, Jetpack, Desert Raid, Halloween Harry, Space.Chase, Night Raid, Defender of Boston, Major Stryker, MarioVGA, Army Dangerous Dave, Bunny, Miner VGA, Bananoid, Peg, Catchem, Hexagon, Avaricus, Bluebells, Gravity Wars Dazzle, VGA Sharks, Roulette, VJig, VGA Life, Alien VGA, Concentration

PRIMARY EDUCATION HD PACK
35 Educational Programs placed on 7HD Disks for only £16. Normally these would cost approx £65 if bought individually and the titles include:
Henrietta's Book of Spells, Spellbound, Hooray for Henrietta, Jigsaw, Talking Teacher, Kids Bankbook, Snakes & Ladders, Where's that Mouse, Billboard, Happy Games, KidPaint, Wordtrix, Kids Games, Amy's 1st Primer, Animated Shapes, Animated Alphabet, DressMeUp, Word Gallery, Magic Crayons, plus many more.

WINDOWS 3 Games HD PACK
30 Games placed on 7HD Disks for only £16. Normally these would cost approx £65 if bought individually and the titles include:
Chess, Backgammon, Xword, Checkers, Cubic, Hextris, Brick, Winpoker, Gravity, Taipei, Win Hang, Ruthie, Cipher, Card Games, Black Box, Oil Baron, Jewel Thief, Kye, Sokoban Warheads, plus many many more.

VGA PINUPS HD PACK
29 Normal Disks placed on 7HD Disks for only £16. Normally these would cost approx £55 if bought individually
This contains a mixture of mostly Pinups, with some games and Animations. This pack is on offer to over 18's only. This is so not to offend and so as to be sure payment will only be accepted by Credit Card either by post or over the phone.

ADVERTISERS INDEX

17 Bit Software....122
Activesound....140
Aldus UK....27
Bath Computer Exchange....38
Bits and PCs....126
Boxform....160
BEM....140
CD Express....157
CD Ltd....25
CD Rom User Group....149
Computers By Post....74–81
Creative Labs....91
Cybernetic Imagination....100
Daisy Data Systems....138
Emperor Software....161
Ensign Systems....46–47
Epson....10
Europress Software....28,52,69,118
Express Technology....147
First Computer Centre....19
Firstcall Computers....154
FOS CD....147
Grandslam....94
Granville Technology....131–134
Hobbykit....88
Int Correspondance/CIA Direct..161
Intuit....15
KIMS....91
Kixx/US Gold....48
Klystron....157
Knowledge Box....144
Labelman....160
LCL Software....162
Legacy UK....160
Linefeed....149
M2....143
Magic Media....54–57
Media Technolgy....53
Megabyte Computers....160
MicroSoft....8
Minster Software....161
Mitsumi Electronics....IBC
Multimax Ltd....149
New Era Software....139
Only The Best Software....100
Owl Associates....91
Powermark....34–37
Premier Mail Order....154
R & D Technology....20
Red Dragon Shareware....162
Res Consultancy....7
Romedia....2,3
Rubysoft....60
Scops Software....OBC
Selective Software....161
Silex....114
Silica Systems....45,97
SML/Saratoga....30
Softcell Services....139
Softwork UK....162
Solar Flare BBS....157
Techmate....144
The X Corporation....139
Trevan Design....160
Unica....129
Way Ahead....126

DOUBLE SPEED

New from Mitsumi; a double speed CD-ROM drive
built to the same superb specification that made Mitsumi's
single speed drive the world's most popular choice.

Single and double speed performance, fast access, new electronic
frontload drawer - and a double shell dust proof mechanism
for guaranteed reliability.

MPC2 compliant, the drive incorporates a controller card
which gives direct access into a PC/AT bus, MS-DOS CD extensions,
Multisession Photo CD and Audio reproduction.

And because it's from Mitsumi, it's affordable.

What else would you expect
from one of the world's leading manufacturers of electronic
components and computer peripherals?

MPC COMPLIANT

MITSUMI

BURSTING WITH FUN!

WHERE LEARNING COMES NATURALLY

Play is the most natural thing in the world for children. And as they play, they can learn.

Mould-breaking software from Scops encourages children to develop important skills such as reading, logical thinking, concentration and memory as they take part in an exciting adventure or tackle a challenging puzzle.

Using digitized speech, humourous sound effects and stunning graphics, Scops Software stimulates the imagination and the natural creativity that's in every child.

Each game has a choice of options and multiple levels of difficulty, ensuring that the pace is gentle and that progress is individual.

This software is loaded with intelligence and bursting with fun!

Scops, where learning comes naturally.

SCOPS SOFTWARE LIMITED, UNIT 2, ABBEY BUSINESS PARK, MONKS WALK, FARNHAM, SURREY GU9 8HT. TEL: 0252 722223 FAX: 0252 711800